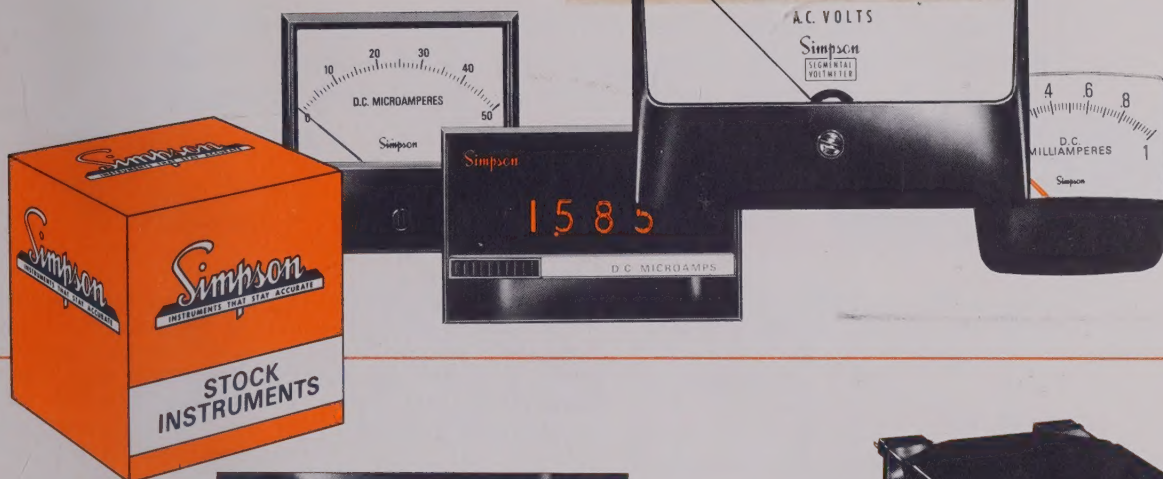


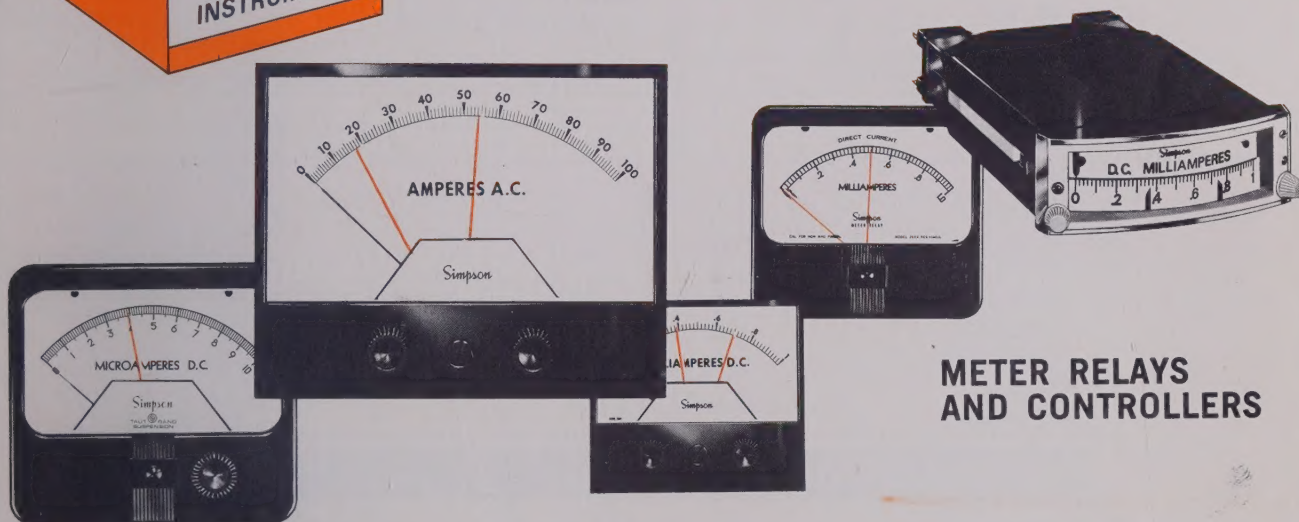
Simpson®

INSTRUMENTS THAT STAY ACCURATE

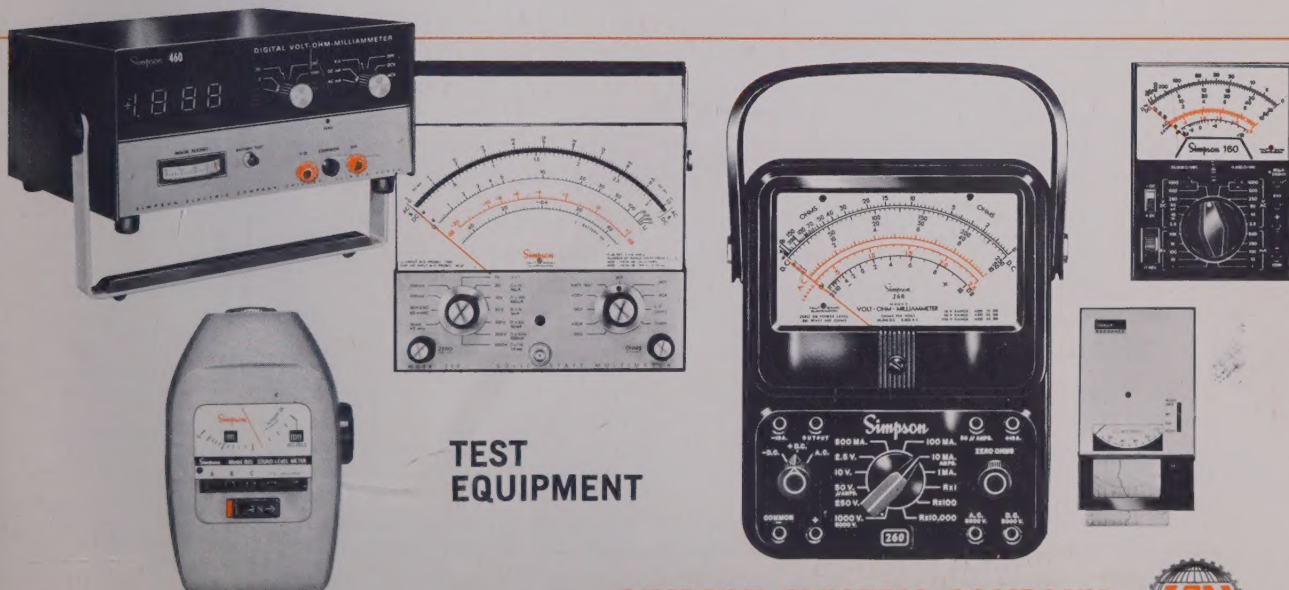
PANEL METERS



METER RELAYS AND CONTROLLERS



TEST EQUIPMENT



SIMPSON ELECTRIC COMPANY

5200 W. Kinzie Street, Chicago, Illinois 60644
Phone (312) 379-1121





ELECTRIC COMPANY the leading manufacturer of panel meters and test equipment for electrical and electronic applications, offers a selection of over 1,500 stock ranges, sizes, and types of panel meters.

Simpson panel meters, chart recorders, meter relays, controllers, and the widest variety of test equipment are all available for off-the-shelf delivery from leading electronic distributors throughout the world.

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PANEL METERS

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Type	Wide-Vue	Bold-Vue	Century Series	Designer Series	Round and Rectangular	Edgewise	Metal Cased	Digital
DC	4, 5, 6	7	8, 9	7	10, 11, 15	16, 17	13	17
DC Taut Band	5	—	8	—	11	—	—	—
AC	6	7	9	7	11, 12	16, 17	13	—
DB, VU	6	—	9	7	12	16	—	—
Wattmeters	6	—	9	—	11	—	—	—
Elapsed Time	18	—	—	—	18	—	—	—
RF, Frequency	6	—	9	—	11	—	14	—
Segmental	14	—	14	—	14	—	14	—
Pyrometers	—	—	—	—	15	—	15	—
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INSTRUMENT RELAYS AND CONTROLLERS

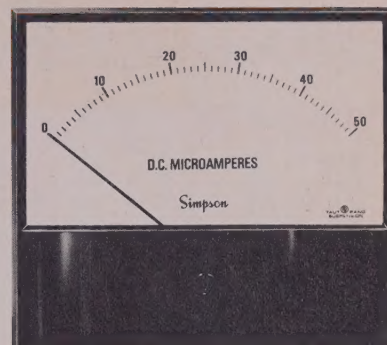
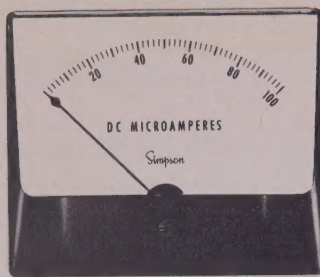
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TEST EQUIPMENT

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Simpson panel meters listed in this catalog are available from Electronic Parts Distributors everywhere—for fast, from stock delivery. They meet, or exceed, the tolerances shown below. Simpson panel meters are famous for their STAY ACCURATE dependability, which is your assurance of their performance when delivered...and their performance after years of rugged use.

Simpson Electric Company has a large staff of experienced

sales engineers to help you with any instrumentation problem. If the stock meters in this brochure do not meet your needs, Simpson can supply special order types built exactly to your requirements.

STANDARD TOLERANCES FOR METER CHARACTERISTICS

All tolerances are for meters mounted in the normal position, and operated at 25°C (77°F).

CHARACTERISTIC	DIRECT CURRENT TYPES		AC RECTIFIER TYPES		AC IRON VANE TYPES		RF THERMO-COUPLE TYPES	WATTMETERS
	CURRENT	VOLTAGE	CURRENT	VOLTAGE	CURRENT	VOLTAGE	CURRENT	
Accuracy	±2%§	±2%	±3%	±3%	±2%	±2%	±2%	±2%*
Tracking	3%	3%	3%	3%	3%	3%	3%	3%
Symmetry ("0" Center Meters)	±4%	±4%	—	—	—	—	—	—
†Repeatability — Spring-loaded Pivot and Jewel Taut-Band	2% 0.5%	2% 0.5%	2% 0.5%	2% 0.5%	2% —	2% —	2% 0.5%	2% —
†Friction — Spring-loaded Pivot and Jewel Taut-Band	1% None	1% None	1% None	1% None	1% —	1% —	1% None	1% —
†Balance	±2%	±2%	±2%	±2%	±2%	±2%	±2%	±2%
Resistance or Sensitivity — below 10 volts — above 10 volts	±15%	±5% ±5%	±15%	±20% ±5%	±15%	±20% ±5%	±15%	— —
Damping Factor	2.5 min.	2.5 min.	2.5 min.	2.5 min.	2.5 min.	2.5 min.	2.5 min.	2.5 min.
Response Time — above 50 µa — below 50 µa	1.5 sec max. 3 sec max.	1.5 sec max. 3 sec max.	1.5 sec max. 3 sec max.	1.5 sec max. 3 sec max.	1.5 sec max.	1.5 sec max.	2.5 sec max.	3 sec max.
Calibration Frequency‡	—	—	60 Hz.	60 Hz.	60 Hz.	60 Hz.	60 Hz.	60 Hz.
Frequency Range (for ±1% deviation from value at 60 Hz.)	—	—	25 Hz. — 10 kHz.	25 Hz. — 10 kHz.	20 Hz. — 1 kHz.	20-100 Hz.	25 Hz. — 1 MHz.	DC-500 Hz.
Overload Capacity (1 sec)	1000%	—	150%	—	1000%	—	150%	SEE MAX. LIMITS
Overload Capacity (continuous) % of rated value	150%	120%	120%	120%	150%	120%	120%	
Temperature Influence (for ±10°C from 25°C)	1%	0.5%	3%	3% Above 5 Volts	1%	0.75%	2%	1%

* Compensated wattmeters 3%.

† Repeatability, friction, and balance tolerances given above are for standard construction stock instruments.

‡ AC Iron Vane Types can also be supplied for use at frequencies up to 800 Hz. on special order.

§ Stock Model 1150-1 has ±1% accuracy.

WIDE-VUE PANEL METERS

CALIBRATION — All DC Wide-Vue meters listed below have the Simpson self-shielded movement (calibration not affected by stray magnetic fields or magnetic mounting). All AC Wide-Vue meters have the Simpson Iron-vane type movement. AC Milliammeters and Ammeters are calibrated for use on 25 through 800 Hz. All AC Voltmeters are calibrated for use on 25 through 125 Hz. Calibration at frequencies up to 800 Hz can be made. Contact your local Distributor for prices.

SPECIFICATIONS

Size	Type and Model Number					Accuracy	Scale Length	Pointer
	DC	AC		RF	Watt			
		Rectifier	Iron Vane					
1½"	1212, 1212T	1214	—	—	—	DC; RF; AC Iron Vane; Wattmeters* ±2%	1.50" (38.1 mm)	Lance, Black
2½"	1227, 1227T	1247	1257	—	—		2.30" (58.4 mm)	Spade, Black
3½"	1327, 1327T	1347	1357	1337	—		3.14" (79.7 mm)	
4½"	1329, 1329T	1349	1359	1339	1379	AC Rectifier Meters ±3%	3.93" (100.0 mm)	
8"	728T	—	—	—	—		6.9" (174.2 mm)	

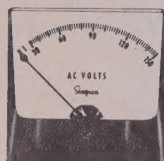
*Compensated Wattmeters ±3%.



1½" Models



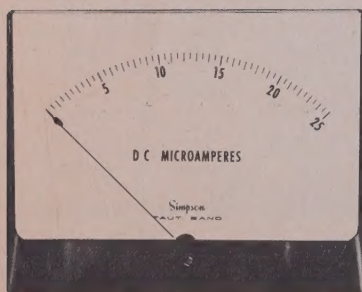
2½" Models



3½" Models



4½" Models



8" Models

Range	Approx. Resistance (ohms)	1½" Case Style Cat. No. Price	2½" Case Style Cat. No. Price	3½" Case Style Cat. No. Price	4½" Case Style Cat. No. Price
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DC VOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1212		Model 1227		Model 1327		Model 1329	
0-5	1000 ohms per volt	9540	\$19.80	9550	\$21.15	9720	\$21.90	9870	\$24.00
0-8		—	—	—	—	9730	21.90	9880	24.00
0-10		9541	19.80	9560	21.15	9740	21.90	9890	24.00
0-15		9542	19.80	9570	21.15	9750	21.90	9900	24.00
0-25		9543	19.80	9580	21.15	9760	21.90	9910	24.00
0-30	2000 ohms per volt	9544	19.80	9590	21.15	9770	21.90	9920	24.00
0-50		9545	19.80	9600	21.15	9780	21.90	9930	24.00
0-100		9546	19.80	9610	21.15	9790	21.90	9940	24.00
0-150		9547	19.80	9620	21.15	9800	21.90	9950	24.00
0-200		—	—	9622	21.15	9810	21.90	9960	24.00
0-250	2000 ohms per volt	—	—	9623	21.15	9820	21.90	9970	24.00
0-300		—	—	9630	21.15	9830	21.90	9980	24.00
0-300		9548	19.80	—	—	—	—	—	—
0-500		9549*	24.60	9640	21.90	9840	22.95	9990	24.75
0-750		—	—	9650*	26.70	9850	22.95	10000	24.75
0-1000	—	—	—	9660*	27.45	9860*	28.35	10010*	30.30

DC AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1212		Model 1227		Model 1327		Model 1329	
0.1	.050	2431	\$19.80	2440	\$20.25	2640	\$21.15	2820	\$22.95
0-1.5	.033	—	—	2450	20.25	2650	21.15	2830	22.95
0-2	.025	2432	19.80	2460	20.25	2660	21.15	2840	22.95
0-3	.0166	2433	19.80	2470	20.25	2670	21.15	2850	22.95
0-5	.010	2434	19.80	2480	20.25	2680	21.15	2860	22.95
0-10	.005	2435	19.80	2490	20.25	2690	21.15	2870	22.95
0-15	.0033	2436†	19.80	2500	20.25	2700	21.15	2880	22.95
0-25	.0020	2437†	19.80	2510	20.25	2710	21.15	2890	22.95
0-30	.0017	—	—	2520	20.25	2720	21.15	2900	22.95
0-50	.001	2438†	19.80	2530†	20.25	2730	21.15	2910	22.95
0-100	10.0	—	—	2540†	20.25	2740†	21.15	2920†	22.95
0-150	10.0	—	—	2550†	20.25	2750†	21.15	2930†	22.95
0-200	10.0	—	—	2552†	20.25	2760†	21.15	2940†	22.95
0-300	10.0	—	—	2554†	20.25	2770†	21.15	2950†	22.95
0-500	10.0	—	—	—	—	2780†	21.15	2960†	22.95
15-0-15	.0033	—	—	—	—	2790	22.35	—	—
30-0-30	.0017	—	—	—	—	2800	22.35	—	—
50-0-50	.001	—	—	—	—	2810	22.35	—	—

*External Multipliers, Model 183, are furnished on 1½" DC meters 500 volts or higher; on 2½" DC meters 750 volts or higher; and on 3½" and 4½" DC meters 1000 volts or higher. All others are self-contained.

†1½" DC Ammeters are self-contained through 10 amps. 15 amps and higher are supplied as 50 MV meters to be used with external shunts. 2½", 3½" and 4½" DC ammeters are self-contained through 50 amps. Higher range DC ammeters are 50 MV meters to be used with external shunts. Shunt listings are on page 20.

WIDE-VUE MOUNTING BEZEL AND ILLUMINATION KITS

For that modern, streamlined appearance — Mounting Bezels, made for wide-vue panel meters and interchangeable with flush and recess type meters of many popular styles. Designed for behind panel mounting on material thickness of ⅛" to ⅜". Groove and flange style construction. Each bezel of die cast metal has an attractive black enamel satin finish and is supplied with mounting hardware and template.

Bezel Mount Kit consists of bezel brackets and screws and installation instructions. Dimensions on page 5.

WIDE VUE BEZEL KITS

Meter Size	For Models	Part No.	Price
3½"	1327, 1337, 1347, 1357	1253	\$2.40
4½"	1329, 1339, 1349, 1359, 1379	1123	2.40
	Illumination Kit	1165	2.25

WIDE-VUE PANEL METERS

1 1/2", 2 1/2", 3 1/2", 4 1/2", 8" WIDE-VUE PANEL METERS

Range	Approx. Resistance (ohms)	1 1/2" Case Style Cat. No.	Price	2 1/2" Case Style Cat. No.	Price	3 1/2" Case Style Cat. No.	Price	4 1/2" Case Style Cat. No.	Price
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DC MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1212	Model 1227	Model 1327	Model 1329
0-1	43	6163	\$18.90	6175	\$19.95
0-3	2.0	6164	18.90	6180	19.95
0-5	2.0 (20†)	6164	18.90	6190	19.95
0-10	10.0 (2.2†)	6165	18.90	6200	19.95
0-15	6.6 (2.2†)	6166	18.90	6210	19.95
0-20	5.0	—	—	6215	19.95
0-25	4.0 (6.0†)	6167	19.80	6220	20.25
0-50	2.0 (3.0†)	6168	19.80	6230	20.25
0-100	1.0 (1.5†)	6169	19.80	6240	20.25
0-150	.66 (1.0†)	6170	19.80	6250	20.25
0-200	.50 (.75†)	6171	19.80	6260	20.25
0-250	.40 (.60†)	6172	19.80	6270	20.25
0-300	.33 (.50†)	6173	19.80	6280	20.25
0-500	.20 (.30†)	6174	19.80	6290	20.25
0-750	.13	—	—	6292	20.25
0-1000	.05	—	—	—	—

†Resistances of Model 1212 shown in ().

DC MICROAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1212	Model 1227	Model 1327	Model 1329
0-50	1800 (5500†)	4294	\$24.75	4310	\$25.65
0-100	1800	4295	22.05	4320	22.95
0-200	1100	4296	20.10	4330	20.85
0-500	90 (190†)	4297	19.80	4340	20.55
25-0-25	1800 (5500†)	4298	24.90	—	—
50-0-50	1800	4302	22.35	4350	23.40
100-0-100	1100	4300	20.25	4351	21.15
500-0-500	43	4301	19.20	4352	20.10

†Resistances of Model 1212 shown in ().

DC MILLIVOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1212	Model 1227	Model 1327	Model 1329
0-50	10	7005	\$19.80	7010	\$20.25
50-0-50	20	—	—	7020	\$21.15
				7021	21.15
				7030	\$22.95
				7031	22.95

Range	Approx. Resistance (ohms)	1 1/2" Case Style Cat. No.	Price	2 1/2" Case Style Cat. No.	Price	3 1/2" Case Style Cat. No.	Price	4 1/2" Case Style Cat. No.	Price	8" Case Style Cat. No.	Price
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TAUT BAND DC MICROAMMETERS Self-Shielding Meter Movement

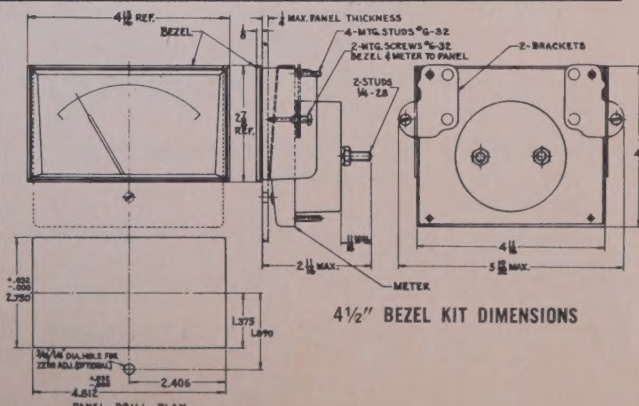
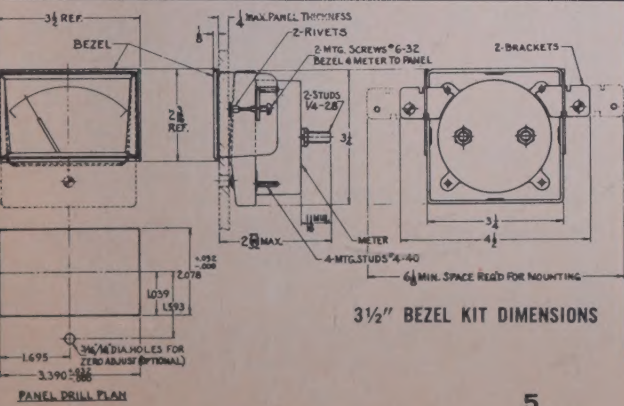
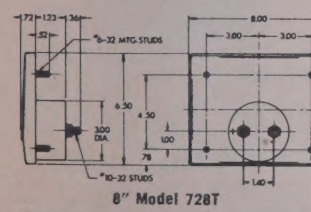
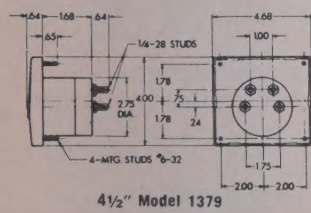
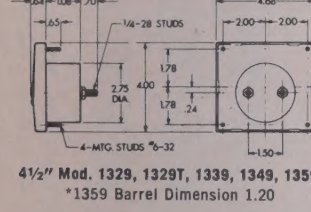
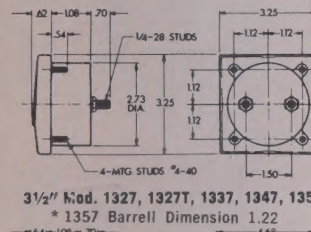
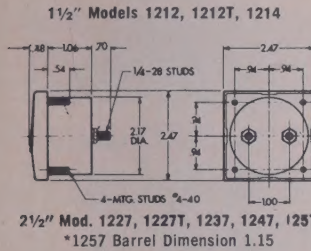
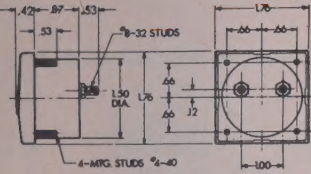
Range	Approx. Ω	Model 1212T	Model 1227T	Model 1327T	Model 1329T	Model 728T
0-5	5750	—	—	—	—	—
0-10	4900	—	—	—	—	—
0-15	1960 (5000†)	4601	\$37.20	4303	\$39.00	4358†
				4304	35.40	4361
0-25	1960 (5780†)	4602	34.65	4306	33.60	4371
0-50	960 (1600†)	4603	27.15	4311	26.40	4381
0-100	500	4604	24.30	4321	24.00	4391
0-200	234	4605	22.50	4331	22.50	4401

†High flux annular taut band meter movement.

† Resistances of Model 1212T shown in ().

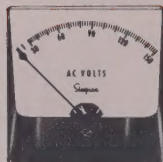
† Resistances of Model 728T shown in ().

DC MILLIAMMETER 0-1 mA: 11210 35.40





4 1/2" Models



3 1/2" Models



3 1/2" Dual Range



2 1/2" Models



1 1/2" Models

Range	Approx. Resistance (ohms)	1 1/2" Case Styles Cat. No. Price	2 1/2" Case Styles Cat. No. Price	3 1/2" Case Styles Cat. No. Price	4 1/2" Case Styles Cat. No. Price
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RF AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω				Model 1337	Model 1339
0-1	.343	—	—	—	2970	\$24.30
0-1.5	.200	—	—	—	2980	24.30
0-2	.120	—	—	—	2990	24.30
0-2.5	.10	—	—	—	3000	24.30
0-3	.08	—	—	—	3010	24.30
0-5	.045	—	—	—	3020	24.30
0-8	.031	—	—	—	3030	24.30
0-10	.023	—	—	—	3040	24.30

RF MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω				Model 1337	Model 1339
0-500	.63	—	—	—	5362	\$28.65

AC VOLTMETERS RECTIFIER TYPE Self-Shielding Meter Movement

Range	Approx. Ω	Model 1214	Model 1247	Model 1347	Model 1349
0-5	2000 ohms per volt	10011	\$27.15	10015	\$25.20
0-10		10012	27.15	10030	28.80
0-15		—	—	10040	28.80
0-50	—	—	—	10050	28.80
0-150		10013	27.15	10060	28.80
0-300		10014	27.15	10070	28.80

DECIBEL METERS

Zero Power Level: 6 mW into 500 Ω line
Self-Shielding Meter Movement

Range	Approx. Ω				Model 1247	Model 1347	Model 1349
-10 to +6 dB	5000	—	—	—	3483	\$28.20	3487

VU (Volume Level) METERS†

Reference Level: 1 mW into 600 Ω line
Self-Shielding Meter Movement

Scale	Model 1214	Model 1247	Model 1347	Model 1349
A—Scale	10472	\$30.30	10474	\$33.45
B—Scale	—	—	10550	34.20

DC GALVANOMETERS Self-Shielding Meter Movement

Range	Sensitivity Micro Amperes	Resistance (ohms)	Model 1212	Model 1227	Model 1327	Model 1329
50-0-50	500-0-500	43	3692	\$19.20	3700	\$19.95
50-0-50	75-0-75	1800	3694	20.25	3710	21.60

†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses percent use of transmitter output and is the standard for broadcast service. Impedance is 3900 Ω @ "0" VU deflection.

Range	Approx. Impedance (ohms) @ 60 Hz.	2 1/2" Case Style Cat. No. Price	3 1/2" Case Style Cat. No. Price	4 1/2" Case Style Cat. No. Price
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AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 1257	Model 1357	Model 1359
0-5	33	—	—	10160
0-10	133	9670	\$19.20	10170
0-15	300	9675	19.20	10180
0-25	833	9680	19.20	10190
0-50	3,333	9690	19.20	10200
0-100	16,666	9695	19.80	10210
0-150	25,000	9700	20.10	10220
0-250	41,166	9705	20.10	10230
0-300	50,000	9710	20.10	10240
0-500††	83,333	9715	25.65	10250

AC AMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 1257	Model 1357	Model 1359
0-1	.213	2560	\$18.15	3130
0-1.5	.105	2570	18.15	3140
0-2	.065	—	—	3150
0-3	.028	2575	18.15	3160
0-5	.008	2580	18.15	3170
0-10	.004	2590	18.15	3180
0-15	.0025	2599	18.15	3190
0-25	.002	2609	18.15	3200
0-30	.0015	2615	18.15	3205
0-50	.001	2619	18.15	3210
0-75	.008	—	—	3215
0-100	.008	2622†	18.15	3220†
0-150	.008	2624†	18.15	3230†
0-200	.008	2626†	18.15	3240†
0-300	.008	2627†	18.15	3250†

AC DUAL RANGE Ammeter/Voltmeter Models

Range		Model 1257	Model 1357	Model 1359
0-150V and 0-5A	—	—	03129	\$27.45

AC MILLIAMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 1257	Model 1357	Model 1359
0-10	1,650	6294	\$18.15	6625
0-50	80	6295	18.15	6630
0-100	17.2	6296	18.15	6640
0-250	3.15	6297	18.15	6650
0-500	.9	6300	18.15	6660

WATTMETERS DYNAMOMETER TYPE Single Phase

Range Watts	Range Volts	Max. Amps	Accuracy $\pm 2\%$ F.S.	Model 1379
0-75	150	1.0	—	10960
0-150	150	2.0	—	10970
0-300	150	4.0	—	10975
0-750	150	10.0	—	10990
0-600	300	4.0	—	10980
0-1500	300	10.0	—	11000
0-3000	300	20.0	—	11010

COMPENSATED WATTMETERS

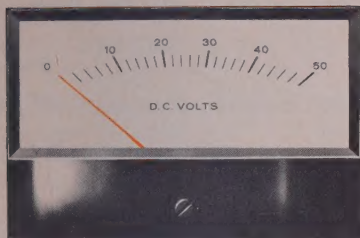
Range Watts	Range Volts	Max. Amps	Accuracy $\pm 3\%$ F.S.	Model 1379
0-10	300	.175	—	10930
0-20	300	.400	—	10940
0-30	300	.650	—	10950

††External Multipliers, Model 183, (Featured on page 20) are furnished on AC meters having a range of 500 volts or higher. All others are self-contained.
‡2 1/2" AC ammeters are self-contained through 50 amps. 3 1/2" and 4 1/2" AC ammeters self-contained through 75 amps and have an impedance of approximately 0005 Ω . Higher range AC ammeters are 5 amp meters to be used with external current transformer. See page 20. for current transformer listings.

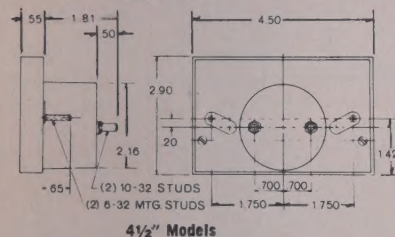
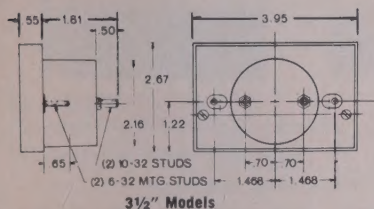
Simpson

DESIGNER and BOLD-VUE PANEL METERS

DESIGNER SERIES



- CLEAN, UNCLUTTERED LOOK
- MAXIMUM READABILITY IN MINIMUM HEIGHT



SPECIFICATIONS	Model 523	Model 543	Model 553	Model 524	Model 544	Model 554
SIZE	3 1/2"	3 1/2"	3 1/2"	4 1/2"	4 1/2"	4 1/2"
SCALE LENGTH	2.92" (74.2 mm)		2.69" (68.3 mm)	3.25" (82.5 mm)		2.84" (72.1 mm)

All Models: $\pm 2\%$ accuracy, knife edge pointer, black phenolic case with glass window.

Range	Approx. Resistance (Ohms)	3 1/2" Case Style Cat. No.	Price	4 1/2" Case Style Cat. No.	Price
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DC VOLTMETERS Self-Shielding

Range	Approx. Ω	Model 523	Model 524
0-5	1000 ohms per volt	15038 \$21.90	15108 \$24.00
0-10		15039 21.90	15109 24.00
0-15		15040 21.90	15110 24.00
0-30		15042 21.90	15112 24.00
0-50		15044 21.90	15114 24.00
0-100		15045 21.90	15111 24.00
0-150		15046 21.90	15116 24.00

DC AMMETERS Self-Shielding

Range	Approx. Ω	Model 523	Model 524
0-1	.050	15031 \$21.15	15101 \$22.95
0-3	.0166	15032 21.15	15102 22.95
0-5	.010	15033 21.15	15103 22.95
0-10	.005	15030 21.15	15100 22.95
0-15	.0033	15034 21.15	15104 22.95
0-25	.0020	15035 21.15	15105 22.95
0-50	.001	15036 21.15	15106 22.95

DC MILLIAMMETERS Self-Shielding

Range	Approx. Ω	Model 523	Model 524
0-1	43.0	15000 \$20.55	15070 \$21.90
0-5	2.0	15001 20.55	15076 21.90
0-10	10.0	15002 20.55	15077 21.90
0-50	2.0	15003 21.15	15078 22.95
0-100	1.0	15010 21.15	15080 22.95
0-200	0.5	15004 21.15	15079 22.95
0-300	0.33	15012 21.15	15081 22.95
0-500	0.2	15013 21.15	15082 22.95

VU METERS Self-Shielding

Scale	Model 543	Model 544
"A" Scale	15064 \$34.20	15134 \$37.20
"A" Scale, Illuminated	15065 37.65	15135 40.65
"B" Scale, Illuminated	15066 37.65	15136 40.65

Range	Approx. Resistance (Ohms)	3 1/2" Case Style Cat. No.	Price	4 1/2" Case Style Cat. No.	Price
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DC MICROAMMETERS Self-Shielding

Range	Approx. Ω	Model 523	Model 524
*0-15	1960	15014 \$38.25	15092 \$41.70
0-25	2100	15015 32.40	15085 35.70
0-50	1800	15017 26.10	15087 28.20
0-100	1800	15019 24.00	15089 26.70
0-200	1100	15021 21.90	15091 24.00
0-500	90	15022 21.60	15093 23.40
25-0-25	1800	15023 21.40	15094 28.35
50-0-50	1800	15025 24.00	15095 26.85
100-0-100	1100	15027 22.05	15097 24.30
500-0-500	43	15024 20.85	15096 22.05

*Taut Band

DC MILLIVOLTMETERS Self-Shielding

Range	Approx. Ω	Model 523	Model 524
0-50	10	15048 \$20.85	15118 \$22.95

AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 553	Model 554
0-150	25,000	15060 \$21.60	15130 \$22.95
0-250	41,166	15061 21.60	15131 22.95
0-300	50,000	15062 21.60	15132 22.95

AC AMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 553	Model 554
0-1	.213	15049 \$19.20	15121 \$22.35
0-5	.008	15050 19.20	15120 22.35
0-10	.004	15052 19.20	15122 22.35
0-15	.0025	15051 19.20	15123 22.35
0-25	.002	15053 19.20	15125 22.35
0-50	.001	15054 19.20	15124 22.35
0-100	.008	15056 19.20	15127 22.35
0-150	.008	15057 19.20	15128 22.35

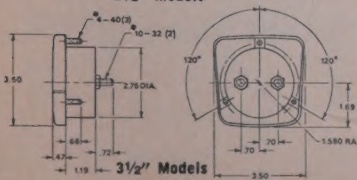
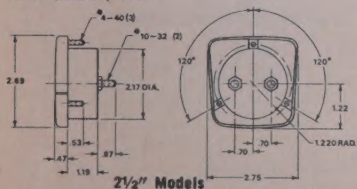
BOLD-VUE



SPECIFICATIONS

Size	DC	AC	Scale Length
2 1/2"	1222	1252	2.207" (56.1 mm)
3 1/2"	1223	1253	3.047" (77.4 mm)

All Models: $\pm 2\%$ F.S. accuracy, wide tapered lance pointer, red.



* AC Models 1252 & 1253 have stud length of .87".

Range	Approx. Resist. (Ohms)	2 1/2" Case Style Cat. No.	Price	3 1/2" Case Style Cat. No.	Price
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DC VOLTMETERS Self-Shielding

Range	Approx. Ω	Model 1222	Model 1223
0-5	1000 ohms per volt	15465 \$21.15	15575 \$21.90
0-10		15466 21.15	15577 21.90
0-15		15467 21.15	15578 21.90
0-25		15470 21.15	15580 21.90
0-30		15475 21.15	15581 21.90
0-50		15480 21.15	15583 21.90
0-100		15490 21.15	15585 21.90
0-150		15495 21.15	15587 21.90
0-300		15500 21.15	15590 21.90

DC AMMETERS Self-Shielding

Range	Approx. Ω	Model 1222	Model 1223
0-1	.050	15401 \$20.25	15510 \$19.20
0-2	.025	—	15515 21.15
0-3	.0166	15403 20.25	15518 21.15
0-5	.010	15405 20.25	15520 19.20
0-10	.005	15410 20.25	15522 19.20
0-15	.0033	15411 20.25	15525 21.15
0-25	.0020	15415 20.25	15530 21.15
0-50	.001	15417 20.25	15535 21.15

DC MILLIAMMETERS Self-Shielding

Range	Approx. Ω	Model 1222	Model 1223
0-1	43	15420 \$19.95	15540 \$20.55
0-3	2.0	—	15542 20.55
0-5	2.0	15422 19.95	15543 20.55
0-10	10.0	15425 19.95	15545 20.55
0-25	4.0	15427 20.25	15548 21.15
0-50	2	15428 20.25	15550 20.55
0-100	1	15430 20.25	15552 21.15
0-200	.5	15435 20.25	15555 21.15
0-300	.33	15440 20.25	15557 21.15
0-500	0.2	15445 20.25	15558 21.15

Range	Approx. Resist. (Ohms)	2 1/2" Case Style Cat. No.	Price	3 1/2" Case Style Cat. No.	Price
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DC MILLIVOLTMETER Self-Shielding

Range	Approx. Ω	Model 1222	Model 1223
0-50	10	15505 \$20.25	15593 \$21.15

DC MICROAMMETERS Self-Shielding

Range	Approx. Ω	Model 1222	Model 1223
0-50	1800	15450 \$25.65	15560 \$26.10
0-100	1800	15452 22.95	15562 24.00
0-200	1100	15455 20.85	15563 21.90
0-500	90	15458 20.55	15565 21.60
25-0-25	1800	—	15570 26.40
50-0-50	1800	15461 23.40	15571 24.00
100-0-100	1100	15462 21.15	15572 22.05
500-0-500	43	15463 20.10	15573 20.85

AC VOLTMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 1252	Model 1253
0-150	25,000	15620 \$20.10	15660 \$21.60
0-250	41,166	15625 20.10	15670 21.60
0-300	50,000	15630 20.10	15675 21.60

AC AMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 1252	Model 1253
0-1	.213	15595 \$18.15	15635 \$19.20
0-3	.028	15597 18.15	15636 19.20
0-5	.008	15598 16.50	15637 17.40
0-10	.004	15600 16.50	15638 17.40
0-15	.0025	15605 16.50	15642 17.40
0-25	.002	15610 17.25	15645 18.00
0-50	.001	15613 18.90	15648 18.00

CALIBRATIONS

All DC meters listed below have the Simpson self-shielded movement (calibration not affected by stray magnetic fields or magnetic mounting). All AC meters have the Simpson Iron-vane type movement. AC Milliammeters and Ammeters are calibrated for use on 25 through 800 Hz. All AC Voltmeters are calibrated for use on 25 through 125 Hz. Calibration at frequencies up to 800 Hz can be made. Contact your local Distributor for prices.

SPECIFICATIONS							Accuracy (1% of F.S.) DC, RF, AC Iron Vane, Wattmeters	Scale Length	Pointer
Size	DC	AC Rectifier	AC Iron Vane	RF	Watt	Dual Range			
1 1/2"	2121	2141					±2% AC Rectifier Meters and Wattmeters ±3%	1.25" (31.7mm)	* *** **** ***** Black
2 1/2"	2122	2142	2152					2.07" (52.6mm)	
3 1/2"	2123	2143	2153	2133	2173	1359		2.75" (69.8mm)	
4 1/2"	2124	2144	2154	2134	2174	1357		4.09" (103.9mm)	

*VU 1.23" (31.2mm)

**AC Iron Vane 1.86" (47.2mm)

***AC Iron Vane, Wattmeters, Dual Range 2.48" (63mm)

****AC Iron Vane, Wattmeters, Dual Range 3.68" (93.5mm); VU 3.71" (94.2mm)

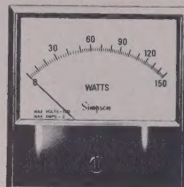
1 1/2" Models



2 1/2" Models



3 1/2" Models



4 1/2" Models



4 1/2" Dual Range



Range	Approx. Resist. (ohms)	1 1/2" Case Style Cat. No.	Price	2 1/2" Case Style Cat. No.	Price	3 1/2" Case Style Cat. No.	Price	4 1/2" Case Style Cat. No.	Price
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DC VOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 2121		Model 2122		Model 2123		Model 2124	
0-5	1000 ohms per volt	17840	\$19.80	17445	\$21.15	17525	\$21.90	17618	\$24.00
0-10		—	—	—	—	—	—	17619	24.00
0-15		17842	19.80	17446	21.15	17527	21.90	17620	24.00
		17843	19.80	17447	21.15	17528	21.90	17621	24.00
0-25	1000 ohms per volt	17844	19.80	17448	21.15	17529	21.90	17622	24.00
0-30		17845	19.80	17449	21.15	17530	21.90	17623	24.00
0-50		17846	19.80	17450	21.15	17531	21.90	17624	24.00
0-100		17848	19.80	17451	21.15	17532	21.90	17625	24.00
0-150	2000 ohms per volt	17849	19.80	17452	21.15	17533	21.90	17626	24.00
0-200		—	—	—	—	17534	21.90	17627	24.00
0-250		—	—	—	—	17535	21.90	—	—
0-300		—	—	17455	21.15	17536	21.90	17629	24.00
0-300	2000 ohms per volt	17850	19.80	—	—	—	—	—	—
0-500		17851	24.60	17456	21.90	17537	22.95	17630	24.75
0-750		—	—	17457	26.70	17538	22.95	17631	24.75
0-1000		—	—	17458	27.45	17539*	28.35	17632*	30.30

DC AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 2121	Model 2122	Model 2123	Model 2124				
0-1	.050	17800	\$19.80	17400	\$20.25	17475	\$21.15	17565	\$22.95
0-1.5	.033	—	—	17401	20.25	17476	21.15	—	—
0-2	.025	17801	19.80	17402	20.25	17477	21.15	17567	22.95
0-3	.0166	17802	19.80	17403	20.25	17478	21.15	17568	22.95
0-5	.010	17803	19.80	17404	20.25	17479	21.15	17569	22.95
0-10	.005	17805	19.80	17405	20.25	17480	21.15	17570	22.95
0-15	.0033	17806†	19.80	17406	20.25	17481	21.15	17571	22.95
0-25	.0020	17807†	19.80	17407	20.25	17482	21.15	17572	22.95
0-30	.0017	—	—	17408	20.25	17483	21.15	17573	22.95
0-50	.001	17808†	19.80	17409†	20.25	17484	21.15	17574	22.95
0-100	10.0	—	—	17410†	20.25	17485†	21.15	17575†	22.95
0-150	10.0	—	—	—	—	17486†	21.15	17576†	22.95
0-200	10.0	—	—	17412†	20.25	17487†	21.15	17577†	22.95
0-300	10.0	—	—	—	—	17488†	21.15	17578†	22.95
0-500	10.0	—	—	—	—	17489†	21.15	17579†	22.95
15-0-15	.0033	—	—	—	—	17490	22.35	—	—
30-0-30	.0017	—	—	—	—	—	—	—	—

*External Multipliers, Model 183, are furnished on 1 1/2" DC meters 500 volts or higher; on 2 1/2" DC meters 750 volts or higher; and on 3 1/2" and 4 1/2" DC meters 1000 volts or higher. All others are self-contained.

†1 1/2" DC Ammeters are self-contained through 10 amps. 15 amps and higher are supplied as 50 MV meters to be used with external shunts. 2 1/2", 3 1/2" and 4 1/2" DC ammeters are self-contained through 50 amps. Higher range DC ammeters are 50 MV meters to be used with external shunts. Shunt listings are on page 20.

Range	Resist. Approx. (ohms)	2 1/2" Case Style Cat. No.	Price	3 1/2" Case Style Cat. No.	Price	4 1/2" Case Style Cat. No.	Price
TAUT BAND DC MICROAMMETERS Self Shielding							
Range	Ω	Model 2122T	Model 2123T	Model 2124T			
0-5	5750	—	17495††	\$48.60	17585††	\$51.60	
0-10	4900	17415	17496	42.75	17586	46.20	
0-15	1960	17416	17497	38.25	17587	41.70	
0-25	1960	17417	17498	37.05	17588	40.20	
0-50	960	17419	17500	28.35	17590	30.45	
0-100	500	17421	17502	26.10	17592	28.80	
0-200	234	17423	—	—	17594	27.15	

†† High flux annular taut band movement.

Range	Approx. Resist. (ohms)	1 1/2" Case Style Cat. No.	Price	2 1/2" Case Style Cat. No.	Price	3 1/2" Case Style Cat. No.	Price	4 1/2" Case Style Cat. No.	Price
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DC MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 2121	Model 2122	Model 2123	Model 2124				
0-1	43	17825	\$18.90	17430	\$19.95	17510	\$20.55	17600	\$21.90
0-3	2.0	—	—	17431	19.95	17511	20.55	17601	21.90
0-5	2.0 (20†)	17826	18.90	17432	19.95	17512	20.55	17602	21.90
0-10	10.0 (2.2†)	17827	18.90	17433	19.95	17513	20.55	17603	21.90
0-15	6.6 (2.2†)	17828	18.90	17434	19.95	—	—	17604	—
0-20	5.0	—	—	—	—	17515	20.55	—	—
0-25	4.0 (6.0†)	17829	19.80	17436	20.25	17516	21.15	17606	22.95
0-50	2.0 (3.0†)	17830	19.80	17437	20.25	17517	21.15	17607	22.95
0-100	1.0 (1.5†)	17832	19.80	17438	20.25	17518	21.15	17608	22.95
0-150	.66 (1.0†)	17833	19.80	17439	20.25	17519	21.15	17609	22.95
0-200	.50 (.75†)	17834	19.80	17440	20.25	17520	21.15	17610	22.95
0-250	.40 (.60†)	17835	19.80	17441	20.25	17521	21.15	17611	22.95
0-300	.33 (.50†)	17836	19.80	17442	20.25	17522	21.15	17612	22.95
0-500	.20 (.30†)	17837	19.80	17443	20.25	17523	21.15	17613	22.95
0-750	.13	—	—	—	—	17524	21.15	17614	22.95
0-1000	.05	—	—	17444	20.25	—	—	17615	22.95

DC MICROAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 2121	Model 2122	Model 2123	Model 2124				
0-50	1800(5500†)	17815	\$24.75	17418	\$25.65	17499	\$26.10	17589	\$28.20
0-100	1800	17816	22.05	17420	22.95	17501	24.00	17591	26.70
0-200	1100	17818	20.10	17422	20.85	17503	21.90	17593	30.00
0-500	90(190†)	17819	19.80	17424	20.55	17505	21.90	17595	23.40
25-0-25	1800(5500†)	17820	24.90	—	—	17506	26.40	17596	28.35
50-0-50	1800	17821	22.35	17425	23.40	17507	24.00	17597	26.85
100-0-100	1100	17822	20.25	17426	21.15	17508	22.05	17598	24.30
500-0-500	43	17823	19.20	17427	20.10	17509	20.85	17599	22.05

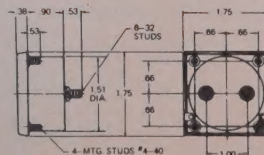
†Resistances of Model 2121

Range	Approx. Resistance (ohms)	2 1/2" Case Style Cat. No.	Price	3 1/2" Case Style Cat. No.	Price	4 1/2" Case Style Cat. No.	Price
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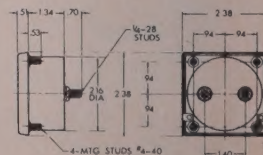
DC MILLIVOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 2122		Model 2123		Model 2124	
0-50	10	17472	\$20.25	17540	\$21.15	17636	\$22.95
50-0-50	20	—	—	17541	21.15	17635	22.95

CENTURY SERIES DIMENSIONS 1 1/2", 2 1/2" Models



Model 2121



Model 2122

Range	Sensitivity μA	Approx. Resistance (ohms)	Model 2122 - 2 1/2" Case Style Cat. No. Price	Model 2123 - 3 1/2" Case Style Cat. No. Price
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DC GALVANOMETERS Self-Shielding Meter Movement

5-0-50	500-0-500	43	17470	\$19.95	17558	\$20.85
50-0-50	75-0-75	1800	—	—	17559	23.40

Range	Approx. Impedance (ohms) @ 60 Hz.	1 1/2" Case Style Cat. No. Price	2 1/2" Case Style Cat. No. Price	3 1/2" Case Style Cat. No. Price	4 1/2" Case Style Cat. No. Price
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RF AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 2132	Model 2133	Model 2134
0-1	.343	17905 \$22.05	—	17650 \$27.75
0-2	.120	17906 22.05	17552 \$24.30	17652 27.75
0-3	.08	17907 22.05	17554 24.30	—
0-5	.045	17908 22.05	17555 24.30	—
0-10	.023	17909 22.05	17557 24.30	17657 27.75

DECIBEL METERS

Zero Power Level: 6 mW into 500Ω line
Self-Shielding Meter Movement

Range	Approx. Ω	Model 2142	Model 2143	Model 2144
-10 to +6 dB	5000	17465 \$28.20	17549 \$30.00	17648 \$30.90

VU (Volume Level) METERS†

Reference Level: 1 mW into 600 Ω line
Self-Shielding Meter Movement

Scale	Model 2141	Model 2142	Model 2143	Model 2144
A-Scale	17865 \$30.30	17473 \$33.45	17560 \$34.20	17646 \$37.20
B-Scale	—	—	17561 34.20	17647 37.20

AC VOLTMETERS Rectifier Type Self-Shielding Meter Movement

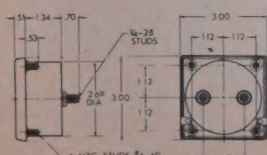
Range	Approx. Ω	Model 2141	Model 2142	Model 2143	Model 2144
0-5	—	17855 \$27.15	17460 \$25.20	17542 \$28.80	17640 \$31.95
0-10	2000 ohms	17856 27.15	—	17543 28.80	17641 31.95
0-15	—	—	—	17544 28.80	17642 31.95
0-50	per volt	—	—	17545 28.80	17643 31.95
0-150	—	17860 27.15	17462 25.20	17546 28.80	17644 31.95
0-300	—	17861 27.15	—	17547 28.80	17645 31.95

AC VOLTMETERS Iron Vane Type Movement

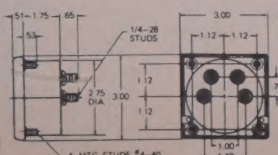
Range	Approx. Impedance (ohms) @ 60 Hz.	Model 2152	Model 2153	Model 2154
0-5	33	—	17725 \$20.10	—
0-10	133	—	17726 20.10	17771 \$22.50
0-15	300	17685 \$19.20	17727 20.10	17772 22.50
0-25	833	17687 19.20	17728 20.10	17773 22.50
0-50	3,333	17688 19.20	17729 20.10	17774 22.50
0-100	16,666	—	17730 20.85	17775 22.50
0-150	25,000	17690 20.10	17731 21.60	17776 22.95
0-250	41,166	17691 20.10	17732 21.60	17777 22.95
0-300	50,000	17692 20.10	17733 21.60	17778 22.95
0-500††	83,333	—	17734 27.30	17779 29.25

†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by Broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses percent use of transmitter output and is the standard for broadcast service. Impedance is 3900 @ "0" VU deflection.

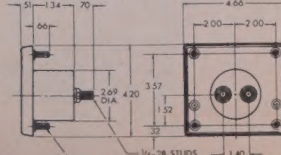
CENTURY SERIES DIMENSIONS — 3 1/2", 4 1/2" Models



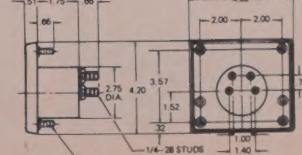
Models: 2123, 2133, 2143, 2153



Model 2173



Models: 2124, 2134, 2144, 2154



Model 2174

Range	Approx. Impedance (ohms) @ 60 Hz.	2 1/2" Case Style Cat. No. Price	3 1/2" Case Style Cat. No. Price	4 1/2" Case Style Cat. No. Price
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AC AMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 2152	Model 2153	Model 2154
0-1	.213	17665 \$18.15	17695 \$19.20	17740 \$20.40
0-1.5	.105	17666 18.15	—	—
0-2	.065	—	17697 19.20	17742 20.40
0-3	.028	17667 18.15	17698 19.20	17743 20.40
0-5	.008	17668 18.15	17699 19.20	17744 20.40
0-10	.004	17669 18.15	17700 19.20	17745 20.40
0-15	.0025	17670 18.15	17701 19.20	17746 20.40
0-25	.002	17671 18.90	17702 19.95	17747 21.15
0-30	.0015	17672 18.90	17703 19.95	17748 21.15
0-50	.001	17673 18.90	17704 19.95	17749 21.15
0-75	.008	—	17710 19.95	17755 21.55
0-100	.008	17674‡ 18.00	17706‡ 19.20	17751‡ 20.40
0-150	.008	—	17707‡ 19.20	17752‡ 20.40
0-200	.008	—	17708‡ 19.20	17753‡ 20.40
0-300	.008	—	17709‡ 19.20	17754‡ 20.40

AC DUAL RANGE Ammeter/Voltmeter Models

Range	Model 2152	Model 2153	Model 2154
0-150V and 0-5A	—	17694 \$27.45	17739 \$29.40

AC MILLIAMMETERS Iron Vane Type Movement

Range	Approx. Ω	Model 2152	Model 2153	Model 2154
0-10	1,650	17680 \$18.00	—	17760 \$20.40
0-50	80.	17681 18.00	17716 \$19.20	17761 20.40
0-100	17.2	17682 18.00	17717 19.20	17762 20.40
0-250	3.15	17683 18.00	17718 19.20	17763 20.40
0-500	.9	17684 18.00	17719 19.20	17764 20.40

WATTMETERS Dynamometer Type Single Phase

Range	Maximum Volts	Maximum Amps	Accuracy ±2% F.S.	Model 2173	Model 2174
0-75	150	1.0	—	17881 \$42.75	17896 \$53.10
0-150	150	2.0	—	17882 42.75	17897 53.10
0-300	150	4.0	—	17883 42.75	17898 53.10
0-750	150	10.0	—	17885 42.75	17900 53.10
0-600	300	4.0	—	17884 46.35	17899 56.70
0-1500	300	10.0	—	17886 46.35	17901 56.70
0-3000	300	10.0	—	17887 46.35	17902 56.70

COMPENSATED WATTMETERS

Range	Maximum Volts	Maximum Amps	Accuracy ±3% F.S.	Model 2173	Model 2174
0-10	300	0.175	—	17875 \$68.25	17890 \$70.95
0-20	300	0.400	—	17876 68.25	17891 70.95
0-20	500	0.175	—	17877 68.25	17893 70.95
0-30	300	0.650	—	17878 68.25	17892 70.95
0-30	500	0.300	—	17879 68.25	17894 70.95
0-50	500	0.500	—	17880 68.25	17895 70.95

††External Multipliers, Model 183, (Featured on page 20) are furnished on AC meters having a range of 500 volts or higher. All others are self-contained.

‡2 1/2" AC ammeters are self-contained through 50 amps. 3 1/2" and 4 1/2" AC ammeters self-contained through 75 amps. Higher range AC ammeters are 5 amp meters to be used with external current transformer. See page 20 for current transformer listings.

2½", 3½", 4½" ROUND and RECTANGULAR STOCK METERS

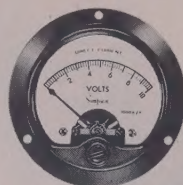
CALIBRATION

All DC meters listed below have the Simpson self-shielding movement. (Calibration not affected by stray magnetic fields or magnetic mounting.) All AC meters have the Simpson Iron Vane type movement. AC Ammeters and Milliammeters are calibrated for use on 25 through 800 Hz. AC Voltmeters are calibrated for use on 25-125 Hz. Calibration at frequencies up through 800 Hz can be made. Contact your local Distributor for prices.

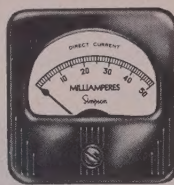
Wattmeters listed below have the Simpson dynamometer movement calibrated for either magnetic or non-magnetic panels and for a frequency range of 25-125 Hz. Standard wattmeters $\pm 2\%$, compensated wattmeters $\pm 3\%$.

SPECIFICATIONS

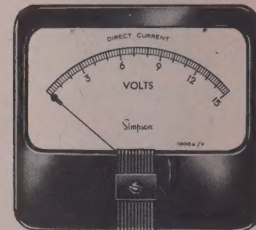
Size	DC Type and Model Number	AC Iron Vane	RF	Watt	Accuracy (% of full scale)	Scale Length	Pointer
2½"	125; 125T; 127; 127T	—	135; 137	—	$\pm 2\%$ (Compensated Wattmeters $\pm 3\%$)	1.8" (45.7 mm)	Spade, Black
	—	155; 157	—	175; 177		1.6" (41.1 mm)	
3½"	25; 25T; 27; 27T	—	35; 37	—		2.5" (63.7 mm)	
	—	55; 57	—	75; 77		2.3" (57.4 mm)	
4½"	29; 29T	—	39	—		3.8" (97 mm)	
	—	59	—	79		3.5" (89.0 mm)	



2½" Models 125, 125T, 135, 145, 155, 175
3½" Models 25, 25T, 35, 45, 55, 75



2½" Models 127, 127T, 137, 147, 157, 177
3½" Models 27, 27T, 37, 47, 57, 77



4½" Models 29, 29T, 39, 49, 59, 79

Range	Approx. Resistance (Ohms)	2½" Case Styles Cat. Nos.	Price	3½" Case Styles Cat. Nos.	Price	4½" Case Styles Cat. Nos.	Price
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DC VOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Models			Models		Model		
		125	127		25	27		29	
0-1.5		8850	9020	\$21.15	—	7290	\$21.90	7620	\$24.00
0-3		8860	9030	21.15	7070	7300	21.90	7630	24.00
0-5		8870	9040	21.15	7080	7310	21.90	7640	24.00
0-8		8880	9050	21.15	—	7320	21.90	7650	24.00
0-10		8890	9060	21.15	7100	7330	21.90	7660	24.00
0-15		8900	9080	21.15	7110	7350	21.90	7670	24.00
0-25	1000 ohms per volt	8910	9090	21.15	7120	7360	21.90	7680	24.00
0-30		8920	9100	21.15	7130	7370	21.90	7690	24.00
0-50		8930	9110	21.15	7140	7380	21.90	7700	24.00
0-100		8940	9130	21.15	7150	7400	21.90	7710	24.00
0-150		8950	9140	21.15	7160	7410	21.90	7720	24.00
0-200		8960	9160	21.15	7170	7430	21.90	7730	24.00
0-250		8970	9170	21.15	7180	7440	21.90	7740	24.00
0-300		—	9180	21.15	7190	7450	21.90	7750	24.00
0-500		—	9200	21.90	7200	7470	22.95	7760	24.75
0-750		—	—	—	7210	7490	22.95	7770	24.75
0-1000		—	—	—	7220†	7495†	28.35	7780†	30.30
0-1500	2000 ohms per volt	—	—	—	7230†	7520†	28.35	7790†	30.60
0-2000		—	9225†	27.30	7240†	7530†	29.40	7800†	31.20
0-2500		—	—	—	—	7550†	29.85	7810†	31.80
0-3000		—	—	—	7260†	7560†	30.15	7820†	32.10
0-4000		—	—	—	—	—	—	7830†	32.40
0-5000		—	—	—	7280†	7600†	30.90	7840†	33.90

DC AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Models			Models			Model	
		125	127		25	27		29	
0-1	.050	1460	1680	\$20.25	0005	0230	\$21.15	0450	\$22.95
0-1.5	.033	1470	1690	20.25	0020	0240	21.15	0460	22.95
0-2	.025	—	1709	20.25	0030	0250	21.15	0470	22.95
0-3	.0166	1490	1710	20.25	0040	0260	21.15	0480	22.95
0-5	.010	1500	1720	20.25	0050	0270	21.15	0490	22.95
0-10	.005	1510	1730	20.25	0060	0280	21.15	0500	22.95
0-15	.0033	1520	1740	20.25	0070	0290	21.15	0512	22.95
0-25	.0020	1530	1750	20.25	0080	0300	21.15	0520	22.95
0-30	.0017	1540	1760	20.25	0090	0310	21.15	0530	22.95
0-50	.001	1550	1770	20.25	0099	0320	21.15	0540	22.95
0-75	10.0	1560†	1780†	20.25	0110†	0330†	21.15	0550†	22.95
0-100	10.0	1570†	1790†	20.25	0120†	0340†	21.15	0560†	22.95
0-150	10.0	1580†	1800†	20.25	0130†	0350†	21.15	0570†	22.95
0-200	10.0	1590†	1810†	20.25	0140†	0360†	21.15	0580†	22.95
0-250	10.0	—	—	—	0151†	—	21.15	0590†	22.95
0-300	10.0	1610†	—	20.25	0160†	0380†	21.15	0600†	22.95
0-500	10.0	1620†	—	20.25	0170†	0390†	21.15	0610†	22.95
0-750	10.0	—	—	—	0177†	0400†	21.15	0620†	22.95
0-1000	10.0	—	—	—	0188†	0410†	21.15	0630†	22.95
15-0-15	.0033	—	—	—	0200	—	22.35	0640	23.55
30-0-30	.0017	1660	1880	20.55	0210	0430	22.35	0650	23.55
50-0-50	.001	1670	1890	20.55	0220	0440	22.35	0660	23.55

†External Multipliers. Model 183, are furnished on 2½" DC meters 750 volts or higher; and on 3½" and 4½" DC meters 1000 volts and higher. All others are self-contained.

‡DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50 MV) listed above are calibrated for 5 ft. leads and require external shunts. See page 20 for complete listings.

Range	Approx. Resistance (Ohms)	2½" Case Styles Cat. Nos.	Price	3½" Case Styles Cat. Nos.	Price	4½" Case Styles Cat. Nos.	Price
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DC MILLIVOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Models			Models			Model	
		125	127		25	27		29	
0-50	10	6970	6990	\$20.25	6910	6930	\$21.15	6950	\$22.95
0-100	20	—	—	—	—	6940	21.15	6960	22.95

DC MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Models			Models			Model	
		125	127		25	27		29	
0-1	43	5580	5760	\$19.	4610	4790	\$20.55	5070	\$21.90
0-1.5	43	5590	5780	19.1	4620	4810	20.55	5080	21.90
0-3	2.0	—	5790	19.95	4630	4820	20.55	5090	21.90
0-5	2.0	5610	5800	19.5	4640	4830	20.55	5100	21.90
0-10	10.0	5620	5810	19.95	4650	4840	20.55	5110	21.90
0-15	6.6	5630	5830	19.95	4660	4860	20.55	5120	21.90
0.20	5.0	—	—	—	4670	4880	20.55	5130	21.90
0.25	4.0	5650	5860	20.25	4680	4890	21.15	5140	22.95
0.50	2.0	5660	5880	20.25	4690	4910	21.15	5150	22.95
0-75	1.3	5670	—	20.25	—	4930	21.15	5160	22.95
0-100	1.0	5680	5910	20.25	4710	4940	21.15	5170	22.95
0-150	.66	5690	5930	20.25	4720	4960	21.15	5180	22.95
0-200	.5	5700	5940	20.25	4730	4980	21.15	5190	22.95
0-250	.4	5710	5960	20.25	4740	5000	21.15	5200	22.95
0-300	.33	5720	5970	20.25	4750	5010	21.15	5210	22.95
0-500	.2	5730	5990	20.25	4760	5030	21.15	5220	22.95
0-750	.13	—	—	—	—	5050	21.15	5230	22.95
0-1000	.05	—	6020	20.25	4780	5060	21.15	5240	22.95

DC MICROAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Models			Models			Model	
		125	127		25	27		29	
0-50	1800	4210	4260	\$25.65	3760	3860	\$26.00	3960	\$28.20
0-100	1800	4220	4270	22.95	3770	3870	24.00	3970	26.70
0-200	1100	4230	4280	20.85	3780	3880	21.90	3980	24.00
0-500	90	4240	4281	20.55	3790	3890	21.60	3990	23.40
25-0-25	1800	4192	4243	26.70	3800	3900	26.40	4000	28.35
50-0-50	1800	4194	4245	23.40	3810	3910	24.00	4010	26.85
100-0-100	1100	4196	4247	21.15	3820	3920	22.05	4020	24.30
500-0-500	43	—	4249	20.10	3830	3930	19.95	4030	28.35

Range	Approx. Impedance (Ohms) @ 60 Hz	2 1/2" Case Styles		3 1/2" Case Styles		4 1/2" Case Styles	
		Cat. Nos.	Price	Cat. Nos.	Price	Cat. Nos.	Price

TAUT BAND DC MICROAMMETERS Self-Shielding

Range	Approx. Ω	Models 125T 127T		Models 25T 27T		Model 29T	
		Cat. Nos.	Price	Cat. Nos.	Price	Cat. Nos.	Price
0-5	5750	—	—	3738	\$38.88	3938	\$51.75
0-10	4900	4197	\$40.95	3739	\$42.75	3939	\$46.20
0-15	1960	4199	\$37.20	3741	\$38.25	3941	\$41.70
0-25	1960	4201	\$35.40	3751	\$37.05	3951	\$40.20
0-50	960	4211	\$27.75	3761	\$28.35	3961	\$30.45
0-100	500	4221	\$25.20	3771	\$26.10	3971	\$28.80

RF AMMETERS Self-Shielding Meter Movement Internal Thermocouple Type

Range	Approx. Ω	Models 135 137		Models 35 37		Model 39	
		Cat. Nos.	Price	Cat. Nos.	Price	Cat. Nos.	Price
0-1	.343	1901	\$22.05	0670	\$24.30	0870	\$27.75
0-1.5	.200	1910	\$22.05	0770	\$24.30	0880	\$27.75
0-2	.120	2010	\$22.05	0780	\$24.30	0890	\$27.75
0-2.5	.10	1930	\$22.05	0800	\$24.30	0900	\$27.75
0-3	.08	1940	\$22.05	0710	\$24.30	0910	\$27.75
0-5	.045	1950	\$22.05	0720	\$24.30	0920	\$27.75
0-8	.031	2080	\$22.05	0850	\$24.30	0930	\$27.75
0-10	.023	2090	\$22.05	0736	\$24.30	0940	\$27.75

RF MILLIAMMETERS Self-Shielding Meter Movement Internal Thermocouple Type

Range	Approx. Ω	Models 175 177		Models 75 77 Accuracy $\pm 2\%$		Model 79	
		Cat. Nos.	Price	Cat. Nos.	Price	Cat. Nos.	Price
0-115	5.5	—	—	5250	\$43.80	5330	\$45.90
0-150	4.5	—	—	5260	\$38.65	5340	\$40.40
0-250	3.5	—	—	5270	\$31.10	5350	\$32.40
0-500	.63	—	—	5280	\$28.65	5360	\$32.40

WATTMETERS Dynamometer Type Single Phase

Range	Maximum		Models			Models			Model	
	Volts	Amps	175	177		75	77	Accuracy ±2%	79	
0-75	150	1.0	—	10860	\$40.65	10580	10650	\$42.75	10720	\$53.10
0-150	150	2.0	10800	10870	40.65	10590	10660	42.75	10730	53.10
0-300	150	4.0	—	10880	40.65	10600	10670	42.75	10740	53.10
0-750	150	10.0	10830	10900	40.65	10620	10690	42.75	10760	53.10
0-600	300	4.0	10820	10890	44.55	10610	10680	46.35	10750	56.70
0-1500	300	10.0	10840	10910	44.55	—	10700	46.35	10770	56.70
0-3000	300	20.0	—	10920	44.55	10640	10710	46.35	10780	56.70

COMPENSATED WATTMETERS Single Phase

Range	Maximum						Models 75 77 Accuracy $\pm 3\%$		Model 79	
	Volts	Amps								
0-10	300	.175	—	—	—	—	10642	\$68.25	10712	\$70.95
0-20	300	.400	—	—	—	—	10644	68.25	10714	70.95
0-20	500	.175	—	—	—	—	10646	68.25	10716	70.95
0-30	300	.650	—	—	—	—	10645	68.25	10715	70.95
0-30	500	.300	—	—	—	—	10648	68.25	10718	70.95
0-50	500	.500	—	—	—	—	10649	68.25	10719	70.95

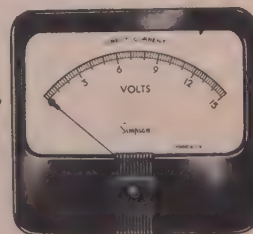
2 1/2" Models 125, 125T, 135, 145, 155, 175
3 1/2" Models 25, 25T, 35, 45, 55, 75



2 1/2" Models 127, 127T, 137, 147, 157, 177
3 1/2" Models 27, 27T, 37, 47, 57, 77



4 1/2" Models 29, 29T, 39, 49, 59, 79



DC GALVANOMETERS

Scale	Sensitivity Micro-Amps	Res. Ohms	Models 125 127		Models 25 27		Model 29	
			Cat. Nos.	Price	Cat. Nos.	Price	Cat. Nos.	Price
50-0-50	500-0-500	43	3670	\$36.90	3690	\$19.95	3630	\$20.85
50-0-50	75-0-75	1800	3660	\$21.60	3680	\$21.60	3620	\$23.40
							3650	\$25.65

AC VOLTMETERS Iron Vane Type Meter Movement

Range	Approx. Ω	Models			Models			Model	
		155	157		55	57		59	
0-1.5	3	—	—	—	—	—	—	8710	\$22.50
0-3	12	—	—	—	—	—	—	8720	22.50
0-5	33	—	9390	\$19.20	8410	8550	\$20.10	8730	22.50
0-10	133	9260	9400	19.20	8420	8566	20.10	8740	22.50
0-15	300	9270	9420	19.20	8430	8580	20.10	8750	22.50
0-25	833	9280	9440	19.20	8440	8599	20.10	8760	22.50
0-50	3,333	9290	9450	19.20	8450	8610	20.10	8770	22.50
0-100	16,666	—	9460	19.80	8460	8620	20.85	8780	22.50
0-150	25,000	9310	9470	20.10	8470	8630	21.60	8790	22.95
0-250	41,166	9320	9490	20.10	8480	8650	21.60	8800	22.95
0-300	50,000	9330	9500	20.10	8490	8660	21.60	8810	22.95
0-500	83,333	9340	9520	25.65	8500	8680	27.30	8820	29.25
0-750	125,000	—	—	—	8510	8690	27.30	8830	31.80
0-1000	166,666	—	—	—	8520	8700	31.80	8840	32.85

AC AMMETERS Iron Vane Type Meter Movement

Range	Approx. Ω	Models 155 157		Models 55 57		Model 59	
		Cat. Nos.	Price	Cat. Nos.	Price	Cat. Nos.	Price
0-1	.213	2100	\$18.15	0950	\$19.20	1290	\$20.40
0-1.5	.105	—	—	0960	\$19.20	1302	\$20.40
0-2	.065	2120	\$18.15	0970	\$19.20	1310	\$20.40
0-3	.028	2130	\$18.15	0980	\$19.20	1320	\$20.40
0-5	.008	2140	\$18.15	0990	\$19.20	1330	\$20.40
0-10	.004	2150	\$18.15	1001	\$19.20	1340	\$20.40
0-15	.0025	2160	\$18.15	1010	\$19.20	1350	\$20.40
0-25	.002	2170	\$18.90	1020	\$19.95	1360	\$21.15
0-30	.0015	2180	\$18.90	1030	\$19.95	1370	\$21.15
0-50	.001	2190	\$18.90	1040	\$19.95	1380	\$21.15
0-75	.0005	—	—	3432	\$21.60	3436	\$22.95
0-75	.008	2200	\$18.15	—	—	—	—
0-100	.008	2210	\$18.15	1060	\$19.20	1400	\$20.40
0-150	.008	2220	\$18.15	1070	\$19.20	1410	\$20.40
0-200	.008	—	—	1080	\$19.20	1420	\$20.40
0-250	.008	2240	\$18.15	1090	\$19.20	1430	\$20.40
0-300	.008	2250	\$18.15	1100	\$19.20	1440	\$20.40
0-500	.008	2260	\$18.15	1110	\$19.20	1450	\$20.40

AC MILLIAMMETERS Iron Vane Type Meter Movement

Range	Approx. Ω	Models		Models		Model			
		155	157	55	57	59			
0-10	1,650	6030	6100	\$18.15	—	5440	\$19.20	5510	\$20.40
0-15	887	—	—	—	5380	5499	19.20	—	20.40
0-25	270	—	—	—	—	5460	19.20	5530	20.40
0-50	80	6060	6130	18.15	5400	5470	19.20	5540	20.40
0-100	17.2	6070	6140	18.15	5410	5480	19.20	5550	20.40
0-250	3.15	6080	6150	18.15	5420	5490	19.20	5560	20.40
0-500	.9	6090	6152	18.15	5430	5500	19.20	5570	20.40

†External Multipliers, Model 183, (Featured on page 20) are furnished on AC meters having a range of 500 volts or higher. All others are self-contained.

†These meters are 5 amp meters with scales as indicated and require external current transformers. See listings on page 20.

CALIBRATION

All meters have the Simpson self-shielding movement and may be used on either magnetic or non-magnetic panels.

SPECIFICATIONS

Size	Model No.	Type	Accuracy (% of full scale)	Scale Length	Pointer
2 1/2"	145; 147	AC Rectifier and DB, VU Meters	AC Rectifier and DB meters $\pm 3\%$ VU meters per ASA specifications in footnote	1.8" (45.7 mm)	Spade, Black
3 1/2"	45; 47			2.5" (63.7 mm)	
4 1/2"	49; 142			3.8" (97 mm)	

Range	Approx. Resistance (Ohms)	2 1/2" Case Styles Cat. No. Price	3 1/2" Case Styles Cat. No. Price	4 1/2" Case Style Cat. No. Price
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DECIBEL METERS Self-Shielding Meter Zero Power Level: 6 mW into 500 Ω line

Range	Approx. Ω	Models 145 147	Models 45 47	Model 49
-10 to +6 dB	5000 ohms	3470 3480	\$28.65 —	3450 \$28.80 3460 \$31.05

VU (Volume Level) METERS† Self-Shielding Reference Level: 1 mW into 600 Ω line

Scale	Models 45 47	Model 142
"A" SCALE; Not Illuminated	— —	—
"B" SCALE; Not Illuminated	10440 10450 10520	\$34.20 34.20 34.20
"A" SCALE; Illuminated	— —	10470 40.65
"B" SCALE; Illuminated	— —	10570 34.65

†Simpson VU meters meet all the Electrical and Ballistic specifications established by Bell Laboratories and American Standards Association as required by broadcasting, communication and sound engineers. They are available with either type A or B scales. Type A scale stresses the level in VU for monitoring wire lines. Type B scale stresses per cent use of transmitter output and is the standard for broadcast service. Impedance is 3900 Ω at "0" VU deflection.

Range	Approx. Resistance (Ohms)	2 1/2" Case Styles Cat. No. Price	3 1/2" Case Styles Cat. No. Price	4 1/2" Case Style Cat. No. Price
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AC MILLIAMMETERS Rectifier Type Self-Shielding Meter Movement

Range	Approx. Ω	Models 45 47	Model 49
0-1	600	6820 6850	\$27.75 6880 \$30.30
0-2	400	6860 6870	27.75 6890 30.30
0-5	200	— —	— —

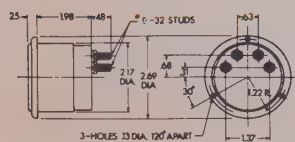
AC MICROAMMETERS Rectifier Type Self-Shielding Meter Movement

Range	Approx. Ω	Models 45 47	Model 49
0-100	3400	4080 4120	\$31.95 4160 \$34.05
0-200	2400	— —	4170 30.90
0-300	1800	4140 27.75	4180 30.30
0-500	1200	4150 27.45	4190 29.85

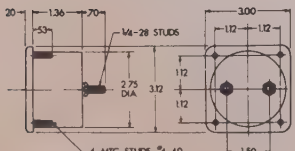
AC VOLTMETERS Rectifier Type Self-Shielding Meter Movement

Range	Approx. Ω	Models 45 47	Model 49
0-1	2000 ohms per volt	8120 28.80	8300 \$31.95
0-3		8130 28.80	8310 31.95
0-5		7960 8140 28.80	8320 31.95
0-10	—	7970 8150 28.80	8330 31.95
0-15		7980 8160 28.80	8340 31.95
0-50		8170 8180 28.80	8350 31.95
0-100	—	8010 8180 28.80	8360 31.95
0-150		8020 8190 28.80	8370 31.95
0-300		— —	8371 31.95

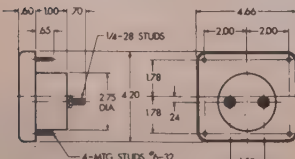
DIMENSIONS in Inches



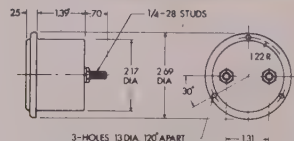
2 1/2" Model 175



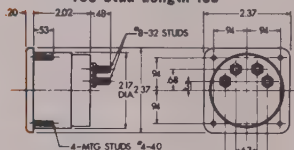
3 1/2" Models 27, 27T, 37, 47, 57
*57 Barrel Length 1.45



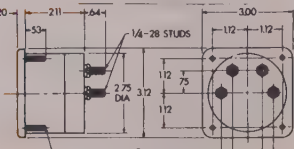
4 1/2" Models 29, 29T, 39, 49, 59
*59 Barrel Length 1.09



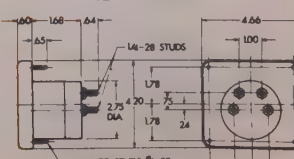
2 1/2" Models 125, 135, 145, 155
*135 Stud Length .63



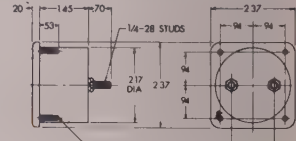
2 1/2" Model 177



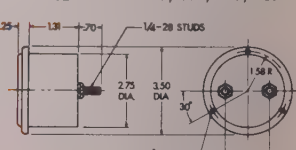
3 1/2" Model 77



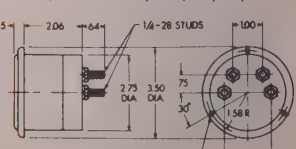
4 1/2" Model 79



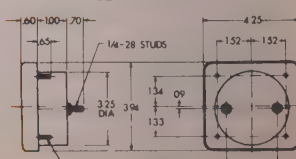
2 1/2" Models 127, 137, 147, 157



3 1/2" Models 25, 25T, 35, 45, 55



3 1/2" Model 75



4 1/2" Model 142

Simpson

METAL CASED PANEL METERS

"RUGGED SEAL" 3 1/2", 4 1/2", 4" x 6", SQUARE and RECTANGULAR METERS

SIMPSON "RUGGED SEAL" PANEL METERS

This line of metal cased panel meters is ideal for use in field test equipment or wherever rigorous environmental conditions are encountered. They are completely sealed, commercially ruggedized, glass window, metal cased and shielded, not affected by steel panel mounting.

SPECIFICATIONS

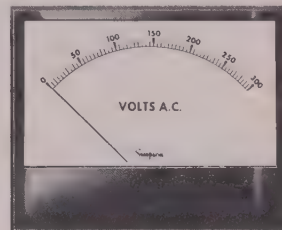
Size	Type and DC	Model Number	Accuracy (% of full scale)	Scale Length	Pointer
3 1/2"	3323	3343	DC Meters: $\pm 2\%$	2.74" (70 mm)	Knife-edge Black
4 1/2"	3324	3344	AC Rectifier Meters: $\pm 3\%$	4.05" (103 mm)	
4" x 6"	3326	3346		4.94" (125 mm)	



3 1/2" Models 3323, 3343



4 1/2" Models 3324, 3344



4" x 6" Models 3326, 3346

Range	Approx. Resistance (Ohms)	3 1/2"		4 1/2"		4" x 6"	
		Case Cat. No.	Price	Case Cat. No.	Price	Case Cat. No.	Price

DC VOLTMETERS

Self-Shielding Meter Movement

Range	Approx. Ω	Model 3323	Model 3324	Model 3326
0-1.5	1000 ohms	16000 \$24.15	16095 \$26.40	16190 \$28.80
0-10		16005 24.15	16100 26.40	16195 28.80
0-15		16010 24.15	16105 26.40	16200 28.80
0-25	per volt	16015 24.15	16110 26.40	16205 28.80
0-50		16020 24.15	16115 26.40	16210 28.80
0-100		16025 24.15	16120 26.40	16215 28.80
0-500		16030 24.15	16125 26.40	16220 28.80

DC MILLIVOLTMETERS

Self-Shielding Meter Movement

Range	Approx. Ω	Model 3323	Model 3324	Model 3326
0-50	10	16062 \$24.30	16157 \$26.85	16252 \$29.40

DC AMMETERS

Self-Shielding Meter Movement

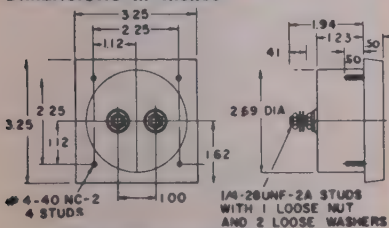
Range	Internal Shunt	Model 3323	Model 3324	Model 3326
0-5	Internal Shunt	16035 \$24.60	16130 \$26.70	16225 \$29.55
0-10		16040 24.60	16135 26.70	16230 29.55

DC MILLIAMMETERS

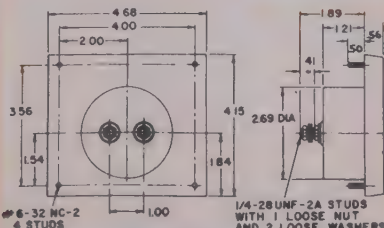
Self-Shielding Meter Movement

Range	Approx. Ω	Model 3323	Model 3324	Model 3326
0-1	80 Ω	16045 \$23.25	16140 \$25.20	16235 \$26.85
0-100	.5 Ω	16050 24.90	16145 26.70	16240 28.05

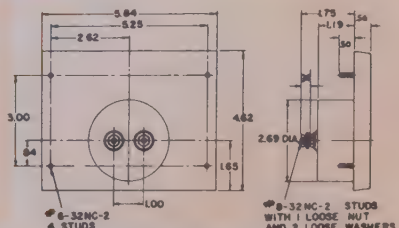
DIMENSIONS in Inches



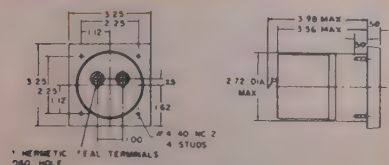
3 1/2" Models 3323, 3343



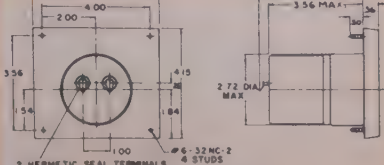
4 1/2" Models 3324, 3344



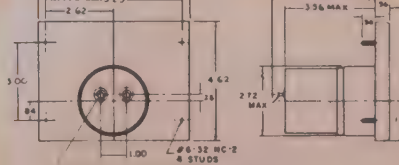
4" x 6" Models 3326, 3346



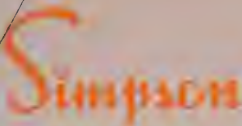
3 1/2" Model 3383



4 1/2" Model 3384



4" x 6" Model 3386



SEGMENTAL METERS

SIMPSON AVERAGE SENSING, TRUE RMS AND DC SEGMENTAL METERS

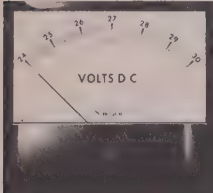
Segmental Voltmeters and frequency meters make it possible to measure very small changes in input conditions. The significant portion of the overall voltage or frequency range is expanded to occupy the full scale length. Thus, only that segment of the range that is important appears.

A.C. segmental voltmeters are available in either average sensing or true R.M.S. sensing units. When working with sine wave currents or when other

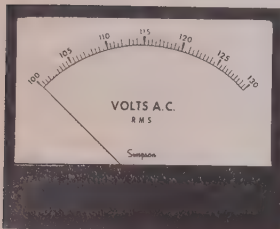
measurements will be made with average sensing equipment, the average sensing meters are preferred.

When working with distorted waveforms, as would be encountered in constant voltage transformers, S.C.R. circuits, D.C. to A.C. solid state inverters or similar equipment, the true R.M.S. sensing meter would probably be preferred. In addition to the standard expansions and accuracies shown, special segmental voltmeters can be built on special order.

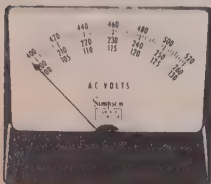
2 1/2" Models 3222, 3282
3 1/2" Models 3223, 3283
4 1/2" Models 3224, 3284



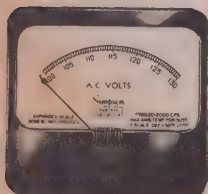
3 1/2" Models 2143, 3323, 3383
4 1/2" Models 2144, 3324, 3384



4" x 6" Models 3326, 3386



4 1/2" Model 1349



4 1/2" Model 49

SPECIFICATIONS

Wide-View, Century, and Phenolic Case Styles			Rugged-Seal and Ruggedized Metal Case Styles				
Range	Average Sensing AC Segmental Voltmeters		RMS Sensing AC Segmental Voltmeters			DC Segmental Voltmeters	
	Single Range	Multi-Range	AC Segmental Voltmeters			Frequency Meters	
Range	100-130 AC Volts	100-130 AC Volts 200-260 AC Volts 400-520 AC Volts	100-130 AC Volts	105-125 AC Volts	110-120 AC Volts	—	—
Accuracy (% of Center Scale Value)	±.5%	100-130 ±.5% 200-260 ±.75% 400-520 ±.75%	±1.0%	±.5%	±.3%	±.5%	±.25%
Frequency Range	20-2000 Hz	50-1000 Hz	55-550 Hz			—	—
Center Scale Value	115 Volts	115/230/460 Volts	115 Volts	115 Volts	115 Volts	27 Volts	60 Hz 400 Hz
Sensitivity or Power Consumption	.6 to 1.3 VA (Sensitivity decreases as input voltage increases)		50 Ω/V	65 Ω/V	80 Ω/V	100 Ω/V	3 VA Max.
Max. Input Voltage (10 Seconds)	150 Volts RMS	150/300/600 Volts RMS	150 Volts RMS			40 Volts	140 Volts RMS
Square Wave Waveform Influence Triangular Wave	11%		2.5%	2.0%	1.0%	—	.1%
Voltage Influence 105-125 Volts	—	—	1.2%	.6%	.3%	—	.1%
Movement Type	—		Self Shielding			—	.25%
Pointer	Spade, Black		—			Lance, Black	—

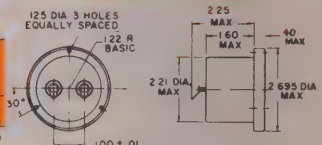
ROUND RUGGEDIZED SEGMENTAL PANEL METERS

Round Panel Meters			2 1/2"		3 1/2"		4 1/2"	
Range	Center Scale Value	Accuracy*	Case Style	Price	Case Style	Price	Case Style	Price
AC Voltmeters True RMS			Model 3282	Model 3283	Model 3282	Model 3283	Model 3284	Model 3284
100-130	115V	1.0%	16285	\$89.95	16305	\$90.15	16335	\$100.20
105-125	115V	0.5%	16290	97.95	16310	90.15	16340	100.20
110-120	115V	0.3%	16295	97.95	16315	90.15	16345	100.20
DC Voltmeters			Model 3222	Model 3223	Model 3224	Model 3224	Model 3224	Model 3224
24-30	27V	0.5%	16300	\$84.00	16320	\$76.65	16350	\$86.10
Frequency Meters			Model 3283	Model 3284	Model 3283	Model 3284	Model 3284	Model 3284
380-420 Hz	400 Hz	0.25%	—	—	16330	\$213.15	16360	\$223.05

SQUARE RUGGED-SEAL SEGMENTAL PANEL METERS

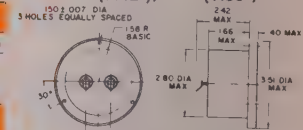
Square Panel Meters			3 1/2"		4 1/2"		4" x 6"	
Range	Center Scale Value	Accuracy*	Case Style	Price	Case Style	Price	Case Style	Price
AC Voltmeters True RMS			Model 3383	Model 3384	Model 3384	Model 3386	Model 3386	Model 3386
100-130	115V	1.0%	16365	\$82.65	16395	\$91.05	16425	\$97.35
105-125	115V	0.5%	16370	82.65	16400	91.05	16430	97.35
110-120	115V	0.3%	16375	82.65	16405	91.05	16435	97.35
DC Voltmeters			Model 3323	Model 3324	Model 3324	Model 3326	Model 3326	Model 3326
24-30	27V	0.5%	16380	\$69.00	16410	\$77.40	16440	\$83.25
Frequency Meters			Model 3383	Model 3384	Model 3384	Model 3380	Model 3380	Model 3380
380-420 Hz	400 Hz	0.25%	16390	\$198.00	16420	\$203.70	16450	\$209.55

DIMENSIONS IN INCHES



2 1/2" Models 3222, 3282

* Model 3282 barrel dimensions: 3.88", 2.94" (2.42"), (1.66")



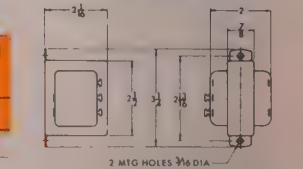
3 1/2" Models 3223, 3283

* Model 3283 barrel dimensions: 4.00", 3.16"



4 1/2" Models 3224, 3284

* Model 3284 barrel dimensions: 3.98", 3.56"



External Potential Transformer

DIMENSIONS OF OTHER MODELS LISTED:

Model 49 — see page 12
Models 1347, 1349 — see page 5
Model 2144 — see page 9
Models 3323, 3324, 3326, 3383, 3384, 3386 — see page 13

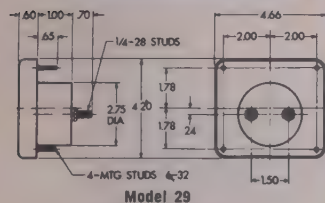
WIDE-VUE, CENTURY and STANDARD SEGMENTAL PANEL METERS — Single, Multi-Range

Range	Center Scale		3½" Century		3½" Wide-Vue		4½" Century		4½" Wide-Vue		4½" Standard	
	Value	Accuracy*	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price
AC Voltmeters Aver. Sensing			Model 2143		Model 1347		Model 2144		Model 1349		Model 49	
100-130	115V	.5%	17548	\$63.00	10152	\$63.00	17638	\$63.45	10155	\$63.30	10151	\$63.30
100-130	115V	.5%	—	—	—	—	17639	\$78.30	10157‡	\$78.30	—	—
200-260	230V	.75%										
400-520	460V	.75%										

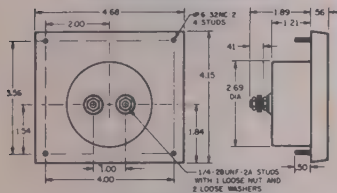
* Accuracy is in percent of center scale value.

† Frequency meters are checked @ the center scale frequency @ 25°C and 115 volts sine wave after 30 minute warmup. Accuracy after 1.0 minute warmup is 1.0%. At end scale indications, maximum error will be 0.5%.

‡ Supplied with external potential transformer.



Model 29



Model 3324

Available in two versions: Standard phenolic Model 29 and Model 3324 Rugged Seal, Metal Cased for extreme conditions. Both models are compensated for ambient temperature changes and include copper circuit compensation. $\pm 2\%$ accuracy.

Each pyrometer is furnished with an external adjustable series resistor to permit use of lower resistance thermocouples in the field.

MODEL 29

Temperature Range		Type Thermocouple†	External Resistance Ohms (max.)	Current Sensitivity MA Approx.	Cat. No.	Price
°F	°C					
-150 to +250	-100 to +120	I/C	10Ω	.40	21200	\$38.25
0 to +300	-20 to +150	I/C	5Ω	.40	21202	38.25
0 to +500	-20 to +260	I/C	10Ω	.35	21204	38.25
0 to +750	-20 to +400	I/C	10Ω	.30	21206	38.25
0 to +1000	-20 to +540	C/A	10Ω	.28	21208	38.25
0 to +1500	-20 to +820	C/A	10Ω	.42	21209	35.55
0 to +2000	-20 to +1200	Pt/Rh‡	10Ω	.43	21210	35.55
0 to +2500	-20 to +1380	Pt/Rh‡	10Ω	.40	21211	35.55

MODEL 3324

-150 to +250	-100 to +120	I/C	10Ω	.40	21201	\$52.05
0 to +300	-20 to +150	I/C	5Ω	.40	21203	52.05
0 to +500	-20 to +260	I/C	10Ω	.35	21205	52.05
0 to +750	-20 to +400	I/C	10Ω	.30	21207	52.05
0 to +1000	-20 to +540	C/A	10Ω	.28	21212	52.05
0 to +1500	-20 to +820	C/A	10Ω	.42	21213	49.35
0 to +2000	-20 to +1200	Pt/Rh‡	10Ω	.43	21214	49.35
0 to +2500	-20 to +1380	Pt/Rh‡	10Ω	.40	21215	49.35

† Thermocouple not supplied with Pyrometer. I/C and C/A types are available from stock as accessory items (see page 20).

‡ Platel II.

6" RECTANGULAR METERS MODELS 1150 and 1150-1

CALIBRATION AND DIALS

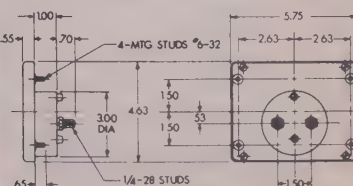
Both models have the Simpson self-shielding movement which may be used on either magnetic or non-magnetic panels.

SPECIFICATIONS

Size	Model Number	Accuracy	Scale Length	Pointer
6"	1150	$\pm 2\%$ of full scale	4.6" (114.8 mm)	Knife-edge, Red
	1150-1	$\pm 1\%$ of full scale	4.6" (114.8 mm)	Mirrored scale



6" Model 1150-1



6" Models 1150, 1150-1

Range	Approx. Resistance (Ohms)	Cat. No.	Price
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DC MICROAMMETERS 1% Mirrored Scale

Range	Approx. Ω	Model 1150-1	
0-50	5200	4290	\$45.60
0-100	2100	4291	43.80
0-200	1100	4292	39.30
0-500	90	4293	38.40

DC MILLIAMMETERS 1% Mirrored Scale

Range	Approx. Ω	Model 1150-1	
0-1	43	6161	\$37.20
0-100	1.0	6161	37.20
0-500	.2	6162	37.20

DC MILLIVOLTMETERS 2%

Range	Approx. Ω	Model 1150	
0-50	10	7003	\$30.60

Range	Approx. Resistance (Ohms)	Cat. No.	Price
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DC MICROAMMETERS 2%

Range	Approx. Ω	Model 1150	
0-15	5500	4282	\$46.35
0-25	5500	4283	41.55
0-50	5200	4284	37.80
0-100	2100	4285	36.30
0-200	1100	4286	31.80
0-500	90	4287	30.90

DC MILLIAMMETERS 2%

Range	Approx. Ω	Model 1150	
0-1	43	6153	\$29.40
0-10	10	6154	29.40
0-50	2.0	6155	29.40
0-100	1.0	6156	29.40
0-500	.2	6157	29.40

Range	Approx. Resistance (Ohms)	Cat. No.	Price
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DC AMMETERS 2%

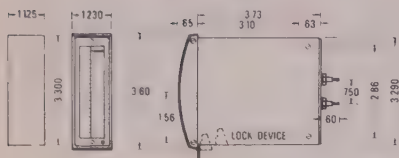
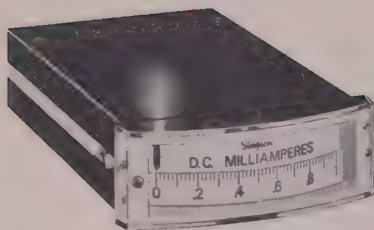
Range	Approx. Ω	Model 1150	
0-1	.050	2424	\$30.60
0-5	.010	2425	30.60
0-10	.005	2426	30.60
0-15	.0033	2427	30.60
0-25	.0020	2428	30.60
0-30	.0016	2429	30.60
0-50	.001	2430	30.60

DC VOLTMETERS 2%

Range	Approx. Ω	Model 1150	
0-10		9533	\$29.40
0-25		9534	29.40
0-50	ohms	9535	29.40
0-100	per	9536	29.40
0-150	volt	9537	29.40
0-300		9538	29.40
0-500	2000 Ω/V	9539	30.30

NEW 3½" EDGEWISE PANEL METER

SPECIFICATIONS



- Self shielding $1\frac{1}{16}$ " core magnet movement.
- Accuracy at $\pm 2\%$ of full scale
 $\pm 1\%$ available on special order.
- Rectifier type AC units are available up to 5 amps, and segmental voltmeters 100-130 VAC also available.
- Scale length equal to $2.6''$.
- Zero adjust available from the front (screw on right side).
- Horizontal mounting . . . vertical on special order.
- Illumination available.
- Lowest available DC current range is 10 micro-amps and 10 millivolts . . . lowest AC current range is 100 μ a.
- Highest self contained range is 10 amps DC, 5 amps AC and 500 volts AC and DC.

RANGES		
DESCRIPTION	CATALOG NO.	PRICE
MODEL NO. 3623 DC		
0-25 Microamps DC	16862	\$39.90
0-50 Microamps DC	16863	37.50
0-100 Microamps DC	16864	35.40
0-200 Microamps DC	16865	33.30
0-500 Microamps DC	16866	32.40
25-0-250 Microamps DC	16867	38.00
0-1 Milliamps DC	16868	31.50
4-20 Milliamps DC	16869	34.80
0-50 Millivolts DC	16870	32.50
0-25 DC Volts	16873	33.50
0-50 DC Volts	16874	33.50
0-10 Volts DC	16880	33.50
0-15 Volts DC	16881	33.50

MODEL NO. 3643 AC

0-5 AC Amps, Rectifier	16871	44.50
100-130 Seg. Volts AC	16879	81.60

1½" and 2½" EDGEWISE BARREL TYPE PANEL METERS

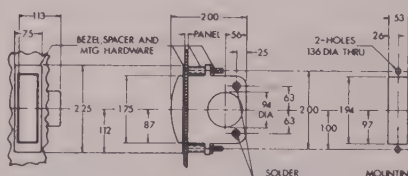
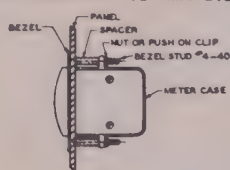
SPECIFICATIONS



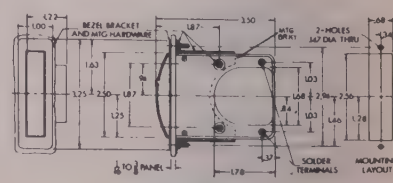
When panel designs call for making every square inch count, or when weight-saving is important, Simpson edgewise meters solve these many design problems. These meters are supplied with complete hardware which includes the bezel and two nuts. Horizontal mounting, vertical on special order.

Models	1½" 1521, 1541	2½" 1522, 1542
Accuracy	DC $\pm 2\%$ of full scale; AC rectifier type $\pm 3\%$	
Movement Type	Self-Shielding Meter Movement	
Scale Length	1.375" (35 mm)	1.875" (47.6 mm)
Pointer	Lance, Red	
Case Construction	Dustproof, molded acrylic	
Terminals	Solder (ammeters — stud type)	

MOUNTING DIAGRAMS 1½" and 2½" SIZES



1 1/2" Models 1521, 1541



2½" Models 1522, 1542

MODELS

Range	Approx. Resistance (Ohms)	1½" Case Style		2½" Case Style	
		Cat. No.	Price	Cat. No.	Price

DC VOLTMETERS Self-Shielding Meter Movement

Range	Approx. 12 volt	Model 1521	Model 1522
0-10	1000 12 volt	10354	10360
0-15	1000 12 volt	10355	10370
0-25	1000 12 volt	10356	10375
0-50	1000 12 volt	10357	10380
0-150	1000 12 volt	10358	10390
0-500	2000 12 volt	10359	10410

DC MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1521		Model 1522	
0-1	20	6811	\$18.90	6710	\$20.85
0-5	2.5	6812	18.90	6710	20.85
0-10	13.5	6813	18.90	6730	20.85
0-25	5.4	6815	19.80	6740	21.75
0-50	2.7	6816	19.80	6750	21.75
0-100	1.35	6817	19.80	6760	21.75
0-500	.27	6819	19.80	6810	21.75

DC AMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1521	Model 1522
0-5	.010	—	3390 \$22.35
0-25	.002	—	3420 22.35

MODELS

Range	Approx. Resistance (Ohms)	1½"		2½"	
		Cat. No.	Price	Cat. No.	Price

DC MILLIVOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1521		Model 1522	
0-50	10	7013	\$20.25	7011	\$22.35

DC MICROAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1521		Model 1522	
0-25	3150	4552	\$29.10	4560	\$31.20
0-50	1800	4553	25.50	4570	27.30
0-100	1100	4554	22.50	4580	24.60
0-200	290	4555	20.25	4590	22.35
0-500	90	4556	19.80	4600	21.60

VU (Volume Level) METERS — Self-Shielding

Reference Level: 1 mW into 600 Ω line

Scale	Model 1541		Model 1542	
"A" Scale	—	—	10500	\$34.65
"B" Scale	—	—	10570	34.65

AC VOLTMETERS Rectifier Type Self-Shielding Meter Movement

Range	Approx. Ω	Model 1541		Model 1542	
0-150	1000 Ω /volt	10415	\$25.05	10420	\$27.00
0-300	1000 Ω /volt	—	—	10430	27.00

†Resistance of Model 1521 0-25 Mics is 5500 Ω .

Simpson

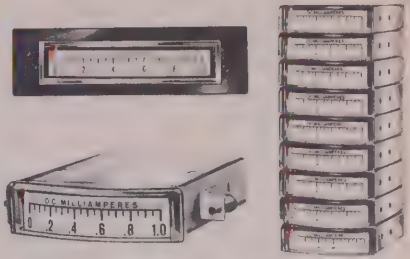
EDGEWISE PANEL METERS

1½" and 2½" STACKABLE TYPE • HORIZONTALLY or VERTICALLY

Simpson's new miniature edgewise panel meter has a unique Self-Shielding Core Magnet Movement* that eliminates the protruding barrel which is prevalent in other edgewise meter designs. It lends itself to a design that is sharp, modern, extremely compact and with a meter scale that extends nearly to the full width and height of the meter. An optimum scale display area allows for the use of large, easy-to-read numerals on a horizontal plane.

*Patent Pending

Models	1½" 1921, 1941	2½" 1622, 1642
Accuracy	±2% of full scale; AC Rectifier types ±3%	
Movement Type	Self-Shielding Core Magnet Movement	
Scale Length	1.370" (35.8 mm)	1.85" (47 mm)
Pointer	Lance, Red	
Case Construction	Steel Housing with rustproof finish; plastic window; insulated terminals; dustproof construction	
Terminals	Solder Type	6-32 studs
Dielectric	1500 Volts RMS	
Panel Cut Out	.525" x 1.718"	.562" x 2.312"
Hardware	Removable brackets with clamping screws	Bezel, bracket lockwashers and nuts



Range	Approx. Resistance (Ohms)	1½" Case Style Cat. No.	Price	2½" Case Style Cat. No.	Price
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DC VOLTMETERS Self-Shielding Meter Movement

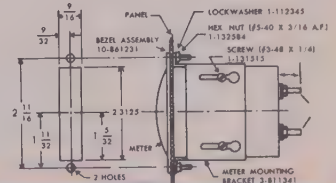
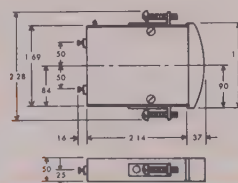
Range	Approx. Ω	Model 1921	Model 1622
0-10	5000 Ω/volt	18000	18006
0-15	5000 Ω/volt	18001	18007
0-25	5000 Ω/volt	18002	18008
0-50	5000 Ω/volt	18003	18009
0-150	5000 Ω/volt	18004	18010
0-500	5000 Ω/volt	—	18011

DC MILLIAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1921	Model 1622
0-1	18	18012	18019
0-5	2	18013	18020
0-10	5	18014	18021
0-25	2	18015	18022
0-50	1	18016	18023
0-100	.5	18017	18024
0-500	.1	18018	18025

DC MILLIVOLTMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1921	Model 1622
0-50	20	18028	18029



Range	Approx. Resistance (Ohms)	1½" Case Style Cat. No.	Price	2½" Case Style Cat. No.	Price
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DC MICROAMMETERS Self-Shielding Meter Movement

Range	Approx. Ω	Model 1921	Model 1622
0-25	7760	18030	18035
0-50	2020	18031	18036
0-100	1060	18032	18037
0-200	310	18033	18038
0-500	63	18034	18039

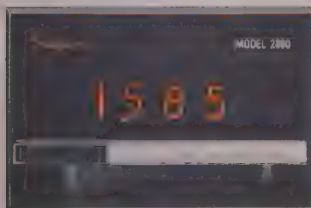
AC VOLTMETERS Rectifier Type Self-Shielding Meter Movement

Range	Approx. Ω	Model 1941	Model 1642
0-150	5000 Ω/volt	18042	18043

Simpson

DIGITAL PANEL METER MODEL 2800

RANGES



DC Voltage Range	Maximum Indication (with Overrange)	Input Impedance	Catalog Number	Price
00.0 — 99.9 mV	199.9 mV	10 kΩ	22950	\$210.00
.000 — .999 volts	1.999 volts	100 kΩ	22951	210.00
0.00 — 9.99 volts	19.99 volts	1 MegΩ	22952	210.00
00.0 — 99.9 volts	199.9 volts	1 MegΩ	22953	210.00
000. — 999. volts	1010. volts*	1 MegΩ	22954	210.00
DC Current Range	Maximum Indication (with Overrange)	Voltage Drop	Catalog Number	Price
0.00 — 9.99 μA	19.99 μA	50 mV	22955	\$210.00
00.0 — 99.9 μA	199.9 μA	50 mV	22956	210.00
.000 — .999 mA	1.999 mA	50 mV	22957	210.00
0.00 — 9.99 mA	19.99 mA	50 mV	22958	210.00
00.0 — 99.9 mA	199.9 mA	50 mV	22959	210.00

* Overrange limited to 10% on this unit.

SPECIFICATIONS

Accuracy: ±0.1% (F.S.), ±1 digit.

Resolution: 1 part in 1000. **

Sample Rate: 5 readings per second, continuous.

Display: Non-blinking, with storage.

Number of Full-Time Readout Digits: 3

Readout Digits: Cold-gas glow tubes, 200,000 hour rated life.

Circuitry: Integrated circuits and solid-state components (except readout tubes).

Overrange: 100%. Number "1" automatically lights to the left of other digits to indicate overrange. When measured value exceeds overrange capacity, the "1" flashes — preventing erroneous readouts.

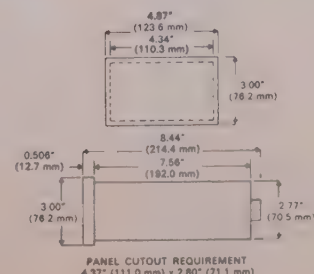
Underrange: Reverse polarity is automatically indicated by a light to the right of other digits. Linear 15% underrange permits reading negative values. Readout is a complement of actual reading.

Common Mode Rejection: Greater than 90 dB at 60 Hz with 1K-ohm unbalance.

Series Mode Rejection: Greater than 35 dB at 60 Hz.

Ambient Temperature Range: To maintain rated accuracy: +15°C to +35°C.

Power Required: 117 volts, 60 Hz., 9 VA (nominal).



2½" and 3½" AC and DC MODELS

Widely used by research labs, manufacturing plants, and broadcast stations. New Model 2153ET has crisp Century Series case design. Model 108ET has interchangeable round and square front mounting bezels. Model 1357ET has popular Wide-Vue styling. DC Model 106

gives accurate ($\pm 2\%$) time readouts where synchronous AC power is not available. Model 106 withstands ambient temperatures from -40°C to $+65^{\circ}\text{C}$ (-40°F to $+149^{\circ}\text{F}$).

SPECIFICATIONS

Operating Voltage	Maximum Indication (Hours)	Power Consumption	Accuracy	Model Size	Model Number	Catalog Number	Price
6 V DC ($\pm 30\%$ to -20%)	99,999	40 mA (max.)	$\pm 2\%$	2½"	106	13530	\$21.00
12 V DC ($\pm 30\%$ to -20%)	Adapter for 106 screws on one terminal				Adapter*	13535	1.05
24 V DC ($\pm 30\%$ to -20%)	Adapter for 106 screws on one terminal				Adapter*	13538	1.05
120 V AC ($\pm 10\%$), 60 Hz	9999.9	2.5 watts	synchronous	2½"	108ET	03585	35.60
120 V AC ($\pm 10\%$), 60 Hz	99,999.9	5 watts	synchronous	3½"†	55ET	03580	26.70
120 V AC ($\pm 10\%$), 60 Hz	99,999.9	5 watts	synchronous	3½"††	1357ET	03595	26.70
120 V AC ($\pm 10\%$), 60 Hz	99,999.9	5 watts	synchronous	3½"‡	57ET	03590	26.70

SPECIFICATIONS

Operating Voltage	Maximum Indication (Hours)	Power Consumption	Accuracy	Model Size	Model Number	Catalog Number	Price
120 V AC ($\pm 10\%$), 60 Hz	99,999.9	5 watts	synchronous	3½"*	2153ET	17720	26.70
240 V AC ($\pm 10\%$), 60 Hz	9999.9	2.5 watts	synchronous	2½"	108ET	03605	36.25
240 V AC ($\pm 10\%$), 60 Hz	99,999.9	5 watts	synchronous	3½"†	55ET	03600	27.00
240 V AC ($\pm 10\%$), 60 Hz	99,999.9	5 watts	synchronous	3½"‡	57ET	03610	27.00
240 V AC ($\pm 10\%$), 60 Hz	99,999.9	5 watts	synchronous	3½"††	1357ET	03615	27.00
240 V AC ($\pm 10\%$), 60 Hz	99,999.9	5 watts	synchronous	3½"***	2153ET	17721	27.00

†Matches standard model 47 rectangular panel meters.

‡Matches standard model 45 round panel meters.

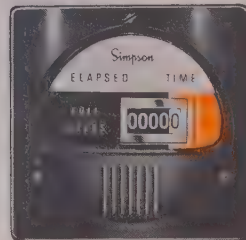
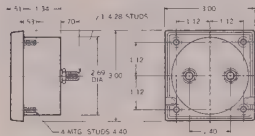
*Matches all three-hole mounting models.

**Matches Century Series Panel Meters.

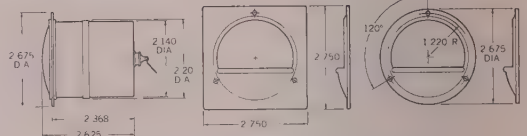
††Matches Wide-Vue panel meters.



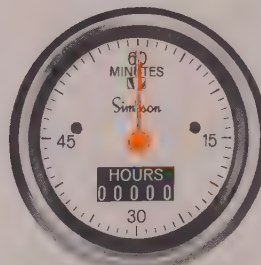
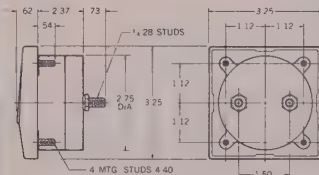
3½" MODEL 2153ET
Century Series
Styling



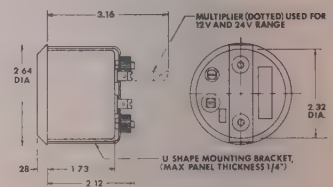
SEALED
2½" AC MODEL 108ET
Has interchangeable
round and square
front bezels



3½" MODEL 1357ET
Wide-Vue
Styling



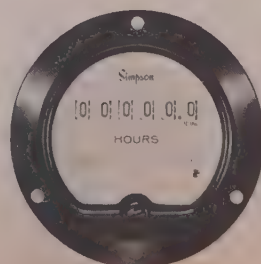
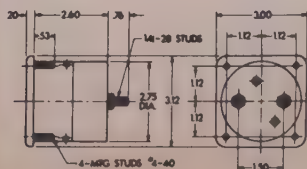
2½" DC MODEL 106 ET



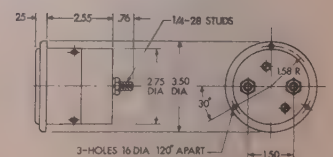
manufactured in West Germany.



3½" MODEL 57ET
Standard
Rectangular
Styling



3½" MODEL 55ET
Standard Round Styling



Simpson

PORTABLE INSTRUMENTS

NEW 4½" Model 2100

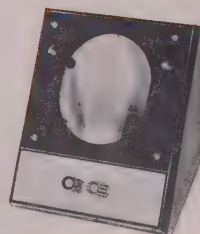
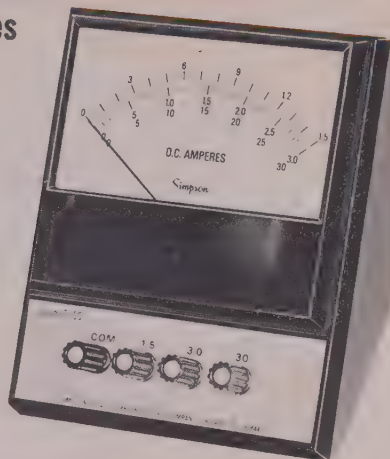
Desk Top and Lab Bench Multi-Range Portables

For Electrical Measurements in Schools, Laboratories and Industrial Plants

Large easy-to-read scale, knife-edge pointer. Self-shielded DC and AC rectifier movements. DC meters have $\pm 2\%$ full scale accuracy. AC meters $\pm 3\%$ full scale accuracy. Four color-coded, multi-range binding posts, one common and three for range selection.

RANGES	Catalog No.	Price	RANGES	Catalog No.	Price
DC AMMETER			AC VOLTMETERS		
0-1.5-3-30 Amps	17950	\$34.80	Rectifier Type		
DC MILLIAMMETERS			0-3-15-150 V	17956	\$49.80
0-1-10-100 MA	17951	\$34.80	0-30-150-300 V	17957	\$49.80
0-25-50-500 MA	17952	\$34.80	0-150-300-600 V	17958	\$49.80
DC MICROAMMETER			DC OHMMETER		
0-10-50-250 μ A	17953	\$66.90	0-1K-100K	17960	\$39.00
DC VOLTMETERS			(Includes 1.5 V battery and test leads.)		
0-1.5-3-30 V	17954	\$34.80			
0-10-25-100 V	17955	\$35.70			

Special Ranges Made to Meet Specifications



Portable Instrument Kit, without meter, for use with any Century Series meter—see pages 8 & 9. Catalog #17949.....\$7.50

Simpson

ELECTRO-MECHANICAL COUNTERS

For vending machines, duplicating equipment, packaging machinery, and many production line applications. Instant number switching. Only complete numbers visible.

SPECIFICATIONS

RATED SPEED: 1 count per 100 milliseconds (10 counts per second; 600 counts per minute).

MINIMUM PULSE DURATION: 50 milliseconds "on," 50 milliseconds "off."

VOLTAGE INPUT: $\pm 15\%$ of the rated voltage.

POWER CONSUMPTION: 4.2 watts (nominal).

MAXIMUM INDICATION: 9,999.

NUMERALS: White on black. 0.2" high. 0.15" wide.

NUMERAL SWITCHING: Ratchet principle, adding one count each time the operating coil is opened. At any given time only whole numbers are visible, for clear readouts.

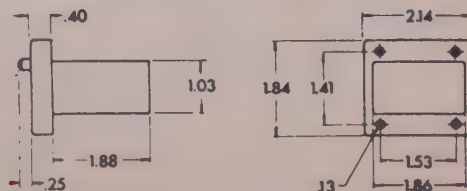
NUMERAL RESET: Front-panel push-button instantly resets numerals to 0000.

CONSTRUCTION: Bezel of rugged thermo-setting materials; black matte finish. Heavy steel frame with a formed aluminum cover.



Voltage	Model	Catalog Number	1-9 Price*
117 VAC, 60 Hz	103	12643	\$16.80
6 VDC	104	12641	16.80
12 VDC	104	12642	16.80

*QUANTITY PRICES: 10-24, \$14.28 ea; 25-49, \$13.44 ea; 50-99, \$12.60 ea; 100-249, \$11.76 ea.



STOCK THERMOCOUPLES

Stock thermocouples are iron-constantan, calibrated to 5 or 10 ohms $\pm 1\%$ per table.

Types 21221 and 21224 are iron constantan thermocouple wire in a stainless steel overbraid for rugged service application where flexing or abrasion would cause deterioration of standard thermocouples.

Types 21222 and 21223 are iron-constantan thermocouples with a glass cloth overbraid. These thermocouples are suited for most general purpose use or for permanent mounting in protected sheaths or conduit.

Cat. No.	Type	Resistance	Over-braid*	Length	Gauge	Price
21221	I/C	5 ohms	SS	162"	20	\$16.50
21222	I/C	10 ohms	GC	137"	24	5.85
21223	I/C	10 ohms	GC	34"	30	4.90
21224	I/C	10 ohms	SS	325"	20	30.15
21231	C/A	10 ohms	SS	154"	20	18.30
21232	C/A	10 ohms	GC	90"	24	4.05

* SS — Stainless Steel GC — Glass Cloth

THERMOCOUPLE ACCESSORIES

Cat. No.		Price
21230	C/A .42 ohm inconel protection 1/4" x 45" tube	\$13.65
21233	C/A .64 ohm inconel protection 3/8" x 12" Disconnect Plug	16.50
21234	10 ohm Extension Wire Kit 43' (use with 21233)	11.10
21235	10 ohm Extension Wire Kit 17' (use with 21233)	4.05
21236	Disconnect Jack (use with 21233)	9.45
21237	Compression Fitting SS 3/8" Dia. (use with 21233)	5.70

EXTERNAL PORTABLE AND SWITCHBOARD SHUNTS — FOR USE WITH DC AMMETERS

These shunts are adjusted for a 50 millivolt drop for use with switchboard and panel ammeters where external shunts are required. Portable shunts have phenolic base and supplied up to 200 amperes. (Prices shown include 5' leads.) Accuracy $\pm 1\%$.

PORTABLE SHUNTS

Amps	Part Number	Price
1	6700	\$11.70
5	6703	11.70
10	6704	11.70
15	6705	11.70
25	6707	11.70
30	6708	11.70
50	6709	11.70
75	6711	11.70
100	6713	11.70
150	6714	11.70
200	6715	11.70

SWITCHBOARD SHUNTS

Amps	Part Number	Price
100	6500	\$11.70
150	6503	12.60
200	6504	12.60
250	6505	12.60
300	6506	12.60
400	6507	15.30
500	6508	18.15
600	6509	21.45
750	6510	27.45
800	6511	29.10
1000	6512	35.40
1200	6513	42.15
1500	6514	52.50
2000	6515	58.35
2500	6516	73.80
3000	6517	87.45
3500	6518	122.25
4000	6519	146.55
4500	6520	160.65
5000	6521	180.60
6000	6522	199.20
7000	6523	239.10

MODEL 183 MULTIPLIER SERIES

Simpson External Multipliers are available for immediate delivery from your local distributor in the ranges listed below. Other intermediate ranges are available on special order: DC Volts to 5000; AC Volts to 1000. Send your specifications for a quotation.

AC VOLTS — 166 Ohms/Volt

Range	Multiplier Impedance (Ω) at 60 Hz.	Volt. Drop	Meter Volt. Drop	Part No.	Price
0-500	58,333	350	150	8562	\$9.15
0-600	75,000	450	150	8563	10.50
0-750	100,000	600	150	8564	11.55
0-1000	141,666	850	150	8565	13.80

DC VOLTS — 2000 Ohms/Volt

Range	Multiplier Resistance Megohms	Meter Sensitivity DC μA	Part No.	Price
0-500	1	500	8552	\$7.65
0-750	1.5	500	8553	8.10
0-1000	2	500	8554	8.10
0-1250	2.5	500	8555	8.10
0-1500	3	500	8556	8.55
0-2000	4	500	8557	8.55
0-2500	5	500	8558	8.70
0-3000	6	500	8559	8.70
0-4000	8	500	8560	9.30
0-5000	10	500	8561	10.35

CURRENT TRANSFORMERS — FOR USE WITH 0-10 VAC METERS AND CONTROLLERS



Model 186

Designed for use with 0-10 volt AC meters. Available from stock, they convert meter relays to AC current control units. Transformer may be located remotely from indicating meter. Ranges from 0-50 milliamperes up to 0-50 amperes are available for immediate delivery. Frequency Range: 30 Hz. to 5 kHz. Accuracy: $\pm 2\%$. (May be used with any 0-10 volt, 1000 Ω /volt, or 2000 Ω /volt, AC rectifier type meter.) Not for use in circuits where sustained overloads are possible.

Range	V.A.	Cat. Number	Price
0- 50 mA	0.40	01294	\$16.05
0-100 mA	0.50	01295	14.85
0-200 mA	0.37	01296	14.85
0-300 mA	0.48	01303	14.85
0-500 mA	0.53	01304	14.85
0-750 mA	0.37	01307	14.85
0- 1 Amp	0.42	01308	13.35
0- 2 Amp	0.54	01309	13.35

Range	V.A.	Cat. Number	Price
0- 3 Amp	0.66	01311	\$13.35
0- 5 Amp	0.75	01312	13.35
0-10 Amp	1.45	01314	13.35
0-15 Amp	1.05	01315	13.35
0-20 Amp	1.04	01316	13.35
0-25 Amp	1.50	01317	13.35
0-30 Amp	1.10	01318	13.35
0-40 Amp	1.09	01319	13.35
0-50 Amp	1.90	01321	13.35

CURRENT TRANSFORMERS — FOR USE WITH AC AMMETERS

Inserted one turn primary type for use with switchboard and panel ammeters where external transformers are required.

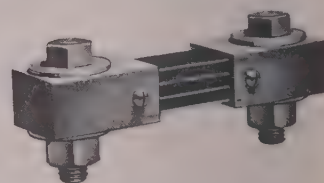


Current Transformer

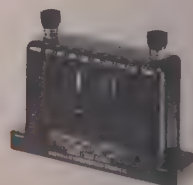
Ampere Ranges Primary	Secondary	Part Number	Price
50	5	1293	\$28.35
75	5	1306	20.85
100	5	1297	17.25
150	5	1298	15.30
200	5	1299	15.30
250	5	1313	15.30
300	5	1300	17.25
400	5	1305	19.20
500	5	1301	20.85
600	5	2303	20.85
750	5	2459	24.60
1000	5	2304	26.55



Phenolic base is supplied up to 200 amperes



Switchboard type — 100 through 7000 amps



External Multiplier — Model 183
For Usage See Voltmeter Footnotes

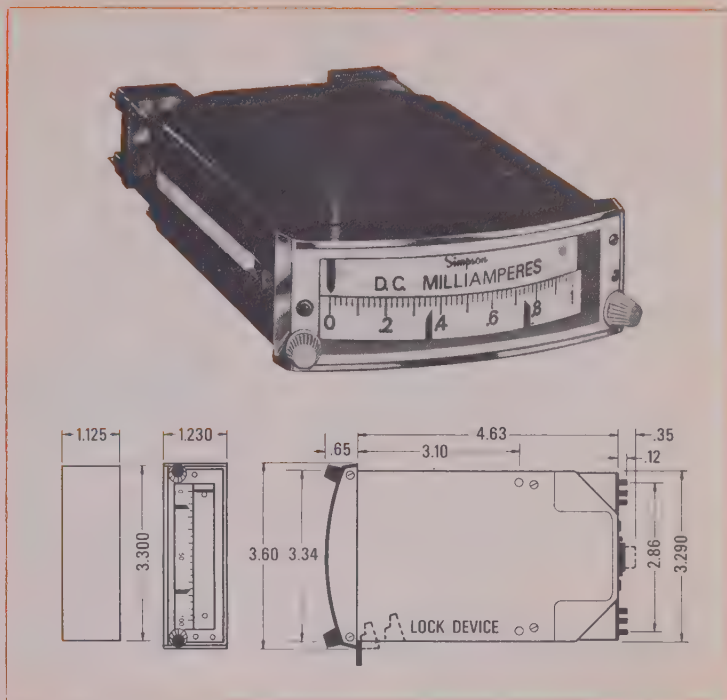
Simpson METER RELAYS and CONTROLLERS

NEW 3½" EDGEWISE CONTACTLESS CONTROLLER

This new edgewise controller offers many unusual features not found in an instrument of this size. Its compact design includes: dial illumination, mode indication lamps, plug-in load relays, front of panel mounting, removable knobs for tamper-proof settings, single or double set-points—in 8 stock DC models and 6 stock AC models.

Available in single or double set point configuration, the contactless controller is completely self-contained and extends just 4.63" behind the panel. In addition to the many standard listed ranges, the 3623XA can be supplied as a temperature controller calibrated for the thermocouple, R.T.D. or thermistor sensors. Thermocouple units have sensor break, copper compensation and cold-end compensation circuits included.

This instrument can also be supplied as a photocell output meter relay, Model 3623XP. Choice of photo sensors permits fitting the instrument to the exact application. Either cadmium sulfide or silicon photo sensors can be supplied. The light sources can be either long life incandescent bulbs (100,000 hrs. min.) or all solid state light emitting diodes (L.E.D.) having infinite life. Write for details.



COMPACT SIZE CONTAINS ALL THESE FEATURES

- Dial Illumination
- Mode Indication Lamps
- Plug-in Load Relays
- Front Panel Mounting
- Integral Mounting Lock
- Removable Set Knobs
- Double Set Points—Single, of course
- Horizontal Mounting
- Vertical on Special Order

SPECIFICATIONS

MOVEMENT

- Self-shielding core type.
- Indicating accuracy: $\pm 2.0\%$ of full scale.
- $\pm 1.0\%$ on special order.
- Maximum sensitivity: 10 DC microamperes.
- Minimum thermocouple range: 300° F.

CONTROL POINTS

- Single**
 - Knob adjustable 0-100% of full scale.
- Double**
 - Low limit adjustable 0-98% of full scale.
 - High limit adjustable 2-100% of full scale.
 - Double set point adjusted within 2° of each other.
 - Control switching within 1.0% of set points.

Control point differential (deadband) less than 0.5% of full scale.

OUTPUT RELAY

- DPDT standard for each control point rated.
- 5 amperes at 115VAC resistive each pole.
- Mechanical life of relay: 1,000,000 operations at rated load.

POWER REQUIREMENT

- 115VAC single phase 50-500 Hz
- 6VA maximum (double set point units)
- 4VA maximum (single set point units)

CASE CONSTRUCTION

- Polycarbonate frame and window with steel case top and bottom.
- Recessed cams for panel mounting.

RANGES*

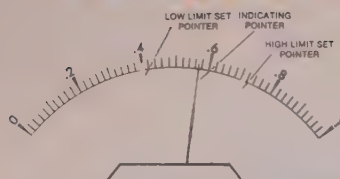
Description Model No. 3623XA DC	Catalog No.	Price
0-50 Microamps DC SSP	16839	\$122.00
0-50 Microamps DC DSP	16840	153.00
0-100 Microamps DC SSP	16841	116.00
0-100 Microamps DC DSP	16842	147.00
0-1 Milliamps DC SSP	16847	110.00
0-1 Milliamps DC DSP	16848	141.00
0-50 Millivolts DC SSP	16849	113.00
0-50 Millivolts DC DSP	16850	144.00

Description Model No. 3643XA AC	Catalog No.	Price
0-5 Amperes AC SSP	16851	\$119.00
0-5 Amperes AC DSP	16852	150.00
0-10 Volts AC SSP	16853	116.00
0-10 Volts AC DSP	16854	147.00
0-150 Volts AC SSP	16855	116.00
0-150 Volts AC DSP	16856	147.00
SSP—Single Set Point DSP—Double Set Point		

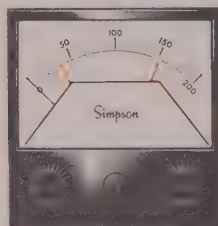
*Pyrometer temperature controllers will be available soon. Ask your distributor about them.

Simpson

METAL CASED "RUGGED SEAL" CONTROLLERS and METER RELAYS



FOR A WIDE VARIETY OF CONTROL, ALARM, LIMIT APPLICATIONS



3 1/2"



4 1/2"



4" x 6"

SPECIFICATIONS

Calibration Accuracy: $\pm 2\%$ of Full Scale.

Control Point(s) Single Double
Adjustment: 0-100% of arc Low limit: 0-95% of arc.
High limit: 5-100% of arc.
Adjustable to within 4° of each other.

Switching: Within 1% of indication.

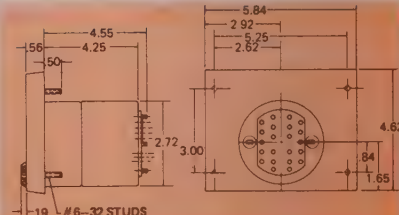
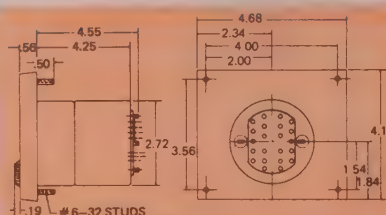
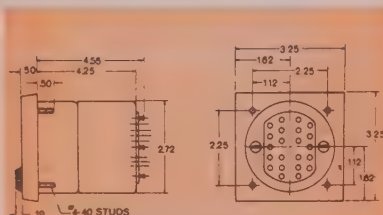
Differential: "On," "Off" difference is within 0.5% of Full Scale.

Contacts/Output Relay: DPDT relay contacts for each control point. Each set of contacts rated at 10 Amps., 115 VAC.

Movement: Self-shielding Annular.

Power: 115 VAC, 50-500 Hz.

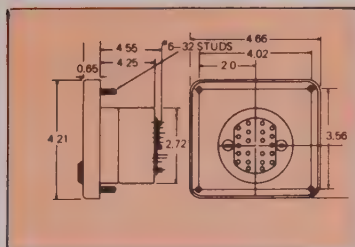
Case: Sealed metal case, glass window.



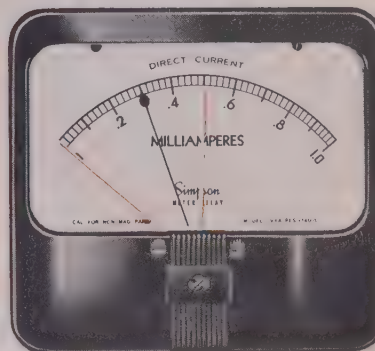
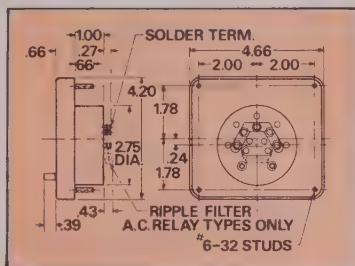
			3½"				4½"				4" x 6"			
Range	Approx. Resistance (ohms)	Thermocouple Type	Single Control Point (High Limit)		Double Control Point*		Single Control Point (High Limit)		Double Control Point*		Single Control Point (High Limit)		Double Control Point*	
TAUT BAND DC MICROAMPERES			Model 3323TXA (Taut Band)				Model 3324TXA (Taut Band)				Model 3326TXA (Taut Band)			
			Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price	Cat. No.	Price
0-10	5500	—	16606	\$134.70	16631	\$164.85	16614	\$138.00	16639	\$168.15	16622	\$141.30	16651	\$171.45
0-25	3000	—	16604	124.80	16632	154.95	16612	128.10	16640	158.25	16620	131.40	16652	161.55
0-50	2000	—	16602	116.55	16633	146.70	16610	119.85	16641	150.00	16618	123.15	16653	153.30
0-100	570	—	16600	113.10	16634	143.25	16608	116.40	16642	146.55	16616	119.70	16654	149.85
DC MICROAMPERES							Model 3324XA							
0-200	570	—	—	—	—	—	16453	\$116.40	16645	\$146.55	—	—	—	—
0-500	220	—	—	—	—	—	16454	116.40	16646	146.55	—	—	—	—
DC MILLIAMPERES			Model 3323XA				Model 3324XA				Model 3326XA			
0-1	80	—	16500	\$111.90	16637	\$142.20	16455	\$115.20	16647	\$145.50	16540	\$118.50	16657	\$148.80
DC MILLIVOLTS			Model 3323XA				Model 3324XA				Model 3326XA			
0-50	10	—	16505	\$112.20	16638	\$142.50	16460	\$115.50	16648	\$145.80	16545	\$118.80	16658	\$149.10
AC AMPERES							Model 3344XA							
0-5	.5 VA MAX.	—	—	—	—	—	16465	\$127.05	16649	\$157.35	—	—	—	—
AC VOLTS							Model 3344XA							
0-10	1000Ω/V.	—	—	—	—	—	16570	\$124.35	16650	\$154.50	—	—	—	—
0-150	1000Ω/V	—	—	—	—	—	16571	124.35	16572	154.50	—	—	—	—
AC LOADMETER							Model 3344XA							
0-150%*	2,000Ω/V.	—	—	—	—	—	21298	\$126.35	21299	\$156.50	—	—	—	—
0-150%***	.5 VA MAX.	—	—	—	—	—	21296	129.05	21297	159.35	—	—	—	—
TEMPERATURE							Model 3324XA							
—75° to +250°F	5	I/C**	—	—	—	—	16801	\$120.00	16807	\$156.00	—	—	—	—
0° to +300°F	5	I/C**	—	—	—	—	16802	120.00	16808	156.00	—	—	—	—
0° to +500°F	10	I/C**	—	—	—	—	16803	117.00	16809	153.00	—	—	—	—
0° to +750°F	10	I/C**	—	—	—	—	16804	117.00	16810	153.00	—	—	—	—
0° to +1000°F	10	I/C**	—	—	—	—	16805	117.00	16811	153.00	—	—	—	—
0° to +1500°F	10	Platinel II	—	—	—	—	16806	117.00	16812	153.00	—	—	—	—
0° to +2000°F	10	Platinel II	—	—	—	—	21278	117.00	21280	153.00	—	—	—	—
0° to +2500°F	10	PT/RH13%**	—	—	—	—	21279	117.00	21281	153.00	—	—	—	—

*For use with Model 186 Current Transformer—see page 20. **Thermocouples not supplied—see page 20 for Thermocouple types. ***See page 20 for current transformers.

4½" CONTACTLESS CONTROLLERS



4½" CONTACT SWITCHING RELAYS



• PHENOLIC CASE CONTACTLESS TYPE

Now available with **contactless** control point sensing . . . the same as used in Simpson's "Rugged Seal" controllers. Contactless operation offers better control accuracy, smaller "dead band," and absolute freedom from interference with the indicating meter. High gain amplifier is all solid-state for maximum reliability.

• PHENOLIC CASE CONTACT TYPE

Model 29XA is also available in a contact type design. This type is well suited for general purpose applications where cost and reasonable reliability are primary considerations.

SPECIFICATIONS

For 4½" Contactless Controllers, use same specifications as for "Metal Cased" Controllers on opposite page 22.

CONTACT TYPE

Calibration Accuracy: $\pm 2\%$ of Full Scale.

Control Point(s): Double.

Adjustment: Low limit 0-95% of arc.
High limit 5-100% of arc.
Adjustable to within 4° of each other.

Switching:

Contact "make" within 2% of indication.

Differential:

Make: within 2% F.S.
Break: within 10% F.S.

Contacts/Output Relay: Gold alloy rated at 10 mA, 15 VDC.

Movement: Self-shielding Annular.
Case: Phenolic, glass window.

CONTROLLER ACCESSORIES

See Page 20

All accessories which can be used with Simpson Meter Relays and Controllers are listed on Page 20. All are available for immediate delivery from distributors stocks. Included are:

- THERMOCOUPLES with accessories
- CURRENT TRANSFORMERS
- PORTABLE SHUNTS
- SWITCHBOARD SHUNTS
- EXTERNAL MULTIPLIERS

Range	Approx. Resistance (Ohms)	4½" CONTACTLESS CONTROLLERS				4½" CONTACT SWITCHING RELAYS	
		Single Control Point (High Limit)		Double Control Point*		Double Control Point	
TAUT BAND DC MICROAMPERES		Model 29TXA		Model 29TXA			
		Cat. No.	Price	Cat. No.	Price	Cat. No.	Price
0-10	5500	16700	\$120.60	16701	\$150.75	—	—
0-25	3000	16702	110.70	16703	140.85	—	—
0-50	2000	16704	105.75	16705	135.90	—	—
0-100	570	16706	102.30	16707	132.60	—	—
DC MICROAMPERES		Model 29XA		Model 29XA		Model 29XA	
0-50	5200	—	—	—	—	07032	\$61.95
0-100	1800	—	—	—	—	07034	59.25
0-200	570 (1000±)	16708	\$ 99.00	16709	\$129.15	07036	55.50
0-500	220 (280±)	16710	99.00	16711	129.15	07038	54.75
DC MILLIAMPERES		Model 29XA		Model 29XA		Model 29XA	
0-1	80 (140±)	16712	\$ 97.80	16713	\$128.10	07040	\$53.40
DC MILLIVOLTS		Model 29XA		Model 29XA		Model 29XA	
0-50	10	16714	\$ 98.10	16715	\$128.40	07050	53.55
AC AMPERES		Model 49XA		Model 49XA			
0-5	0.5 VA MAX.	16716	\$109.65	16717	\$139.95	—	—
AC VOLTS		Model 49XA		Model 49XA			
0-10	1000Ω/V	16718	\$106.95	16719	\$137.10	7069	59.25

† Resistance in brackets are for contact type only.

Simpson

VOLT OHM MILLIAMMETERS

World Famous 260

New 260® Series 6 for today's testing needs!



- External access battery and fuse compartment
- Clip-type fuse holder and extra fuse
- 0-1 volt DC range
- 0-500 volt AC and DC ranges
- New, optional 5kV slip-on safety probe
- Multi-purpose, screw-on test leads with combination probe and alligator clips
- Only 2 batteries . . . one 9-volt NEDA 1604 and one 1.5-volt "D" cell NEDA 13F
- Rugged taut band movement
- Varistor overload protection

260-6	\$68.50
260-6M with mirror scale	71.50
260-6RT in roll-top safety case	74.50
260-6MRT with mirror scale and roll-top case	76.50

ACCESSORIES AVAILABLE *

5kV Safety Probe , for use with any of the above:	
DC catalog number 00506 ..	\$4.50
AC catalog number 00505 ..	4.50
Carrying Cases:	
Vinyl No. 00805.....	15.50
Leather No. 01818.....	13.50
Utility No. 00549.....	20.00

PUSH-BUTTON OVERLOAD PROTECTION!



260-6P The Famous CIRCUIT PROTECTED VOM

Virtually 100% protected! Makes burned components, bent pointers, and blown rectifiers a thing of the past. Ideal for use when exploring unfamiliar equipment, especially if no schematic is available. Also popular in schools, or wherever a VOM must be used by inexperienced personnel. No other VOM has all these features:

1. Reset button pops out to indicate overload.
2. Circuits cannot be reset while overload is present.
3. Does not require massive overloads to activate.
4. All ranges protected except those not feasible in a portable instrument (1000 VDC, 10 Amperes DC).

Uses same accessories* as the 260-6, including Add-A-Tester adapters.

260-6P	\$99.50
260-6PRT (with roll-top protective case)	105.50



260 VOM WITH 50 MILLIVOLT DROP

Makes testing new solid-state circuits easier. All the features of the famous 260® including a 1-ampere fused input, self-shielding varistor protected movement and Adjust-A-Vue handle which folds to use as a stand. Plus modified range coverage and 50 millivolt drop on DC current ranges . . . specifically for solid-state circuits. Taut band movement is shock-proof.

260	\$73.50
Ever-Redy Vinyl Carrying Case, for above. No. 00805	15.50



255 VOM WITH 10,000 VOLT AC HIGH-VOLTAGE PROBE

Designed by Simpson for a major utility company to meet the specific needs of servicemen in the gas appliance, electrical heating and appliance fields. Has important features of 260® VOM, plus temperature range of +100°F. to +1050°F. Low millivolt drop on DC current ranges for servicing new solid-state controls.

Complete with operator's manual, test leads with prods (No. 00115), 5 foot thermocouple lead (No. 00163), and batteries.

255	\$90.00
10,000 volt AC High-Voltage Probe Cat. No. 00161	17.00
Specialty designed Carrying Case for 255. No. 00549	20.00
Probe Case, snaps onto above Carrying Case No. 00574	6.00



Model 261-2



Model 270-4

261-2 and 270-4 HIGH ACCURACY VOLT OHM MILLIAMMETERS

Designed for VOM applications requiring higher accuracies. They have all the features of the 260-5M, including external access battery compartment mirror scale, varistor protected self-shielding movement, and Adjust-A-Vue handle. Special calibration circuits and components, combined with strict manufacturing controls, produce outstanding accuracy. 270-4 has built-in temperature compensation. Both use all 260® accessories*, including plug-in Add-A-Tester® adapters.

261-2	\$76.50
261-2RT (Roll-top protective case)	82.50
270-4	81.50
270-4RT (Roll-top protective case)	87.50
Complete with operator's manual, test leads (No. 07500), and batteries. Ever-Redy Vinyl Carrying Case, for above. No. 00805	15.50

*See page 25 for additional accessory listings.

Simpson

VOLT OHM MILLIAMMETERS

IN THE 260® FAMILY THERE'S A VOM TO MEET YOUR EXACT NEEDS...

SPECIFICATIONS — 20,000Ω/V DC; 5,000Ω/V AC

RANGES	250	255	260-6	260-6M	260-6P	270-4	261-2
DC Volts	0-0.050; 0-0.250; 0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-0.050; 0-0.250; 0-1; 0-2.5; 0-10; 0-50; 0-250; 0-1000	0-1; 0-2.5; 0-10; 0-50; 0-500; 0-1000				0-0.25; 0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000
AC Volts	0-2.5; 0-10; 0-50; 0-250; 0-500; 0-1000	0-2.5; 0-10; 0-50; 0-250; 0-1000	0-2.5; 0-10; 0-50; 0-500; 0-1000				0-2.5; 0-10; 0-50; 0-250; 0-1000; 0-5000
DC Microamperes	0-50 (Both 50 and 250 MV Drop)		0-50 (250 MV Drop)				
DC Milliamperes	0-1; 0-10; 0-100; 0-500 (50 MV Drop)		0-1; 0-10; 0-100; 0-500				
DC Amperes	0-10 (50 MV Drop)	None	0-10 (250 MV Drop)				
AC Amperes	Up to 250 AC Amps with Optional Amp-Clamp Adapter						
DB Scale (1 MW-600Ω)	-20 to +10; -8 to +22; +6 to +36; +20 to +50	None	-20 to +10; -8 to +22; +6 to +36; +20 to +50				
Output Ranges	None	None	0.1 mfd capacitor in series with all AC voltage ranges through 250 volts.				
Resistance Ranges	R x 1 0-2000Ω (12Ω center)		R x 100 0-200KΩ (1200Ω center)			R x 10K 0-20 megΩ (120KΩ center)	
Temperature Range	None	+100°F. to +1050°F.	None				
ACCURACIES:							
0-50 MV; 0-250 MV; 0-1 to 0-1000 V DC	±2% F.S.	±2% F.S.	±2% F.S.		±1.25% F.S.	±1.5% F.S. ★	
0-5000 V DC	—	—	—		—	±2.5% F.S.	
0-50 Microamperes	±1% F.S.	±1% F.S.	±1.5% F.S.		±.75% F.S.	±1.0% F.S.	
0-1 MA to 0-10 A DC	±2% F.S.	±2% F.S.	±2% F.S.		±1.25% F.S.	±1.5% F.S.	
R x 1	±2.5° of Arc	±2.5° of Arc	±2.5° of Arc		±1.5° of Arc	±2.0° of Arc	
R x 100, R x 10,000	±2.0° of Arc	±2.0° of Arc	±2.0° of Arc		±1.0° of Arc	±1.5° of Arc	
0-2.5 to 0-1000 V AC	±3% F.S.	±3% F.S.	±3% F.S.		±2.0% F.S.	±3% F.S.	
0-5000 VAC	—	—	—		—	±4% F.S.	
Movement Type	TAUT BAND Self Shielding Annular						
Temperature Compensated	No	No	No	No	No	Yes	No
Meter Movement Protection	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Resetable Circuit Protection	No†	No†	No†	No†	Yes	No†	No†
Mirror Scale	No	No	No	Yes	No	Yes	Yes
Scale Length	4.2 inches						
Dimensions	5¼" x 7" x 3⅛"						
Net Weight	3½ lbs.						
Price	\$73.50	\$90.00	\$68.50	\$71.50	\$99.50	\$81.50	\$76.50

† 1 amp. fuse limits maximum current.

★ 261-2 Accuracy 0-2.5 to 0-1000 V DC.

260® VOM ACCESSORIES

HIGH VOLTAGE PROBES

5 kV AC	No. 00506	\$ 4.50
5 kV DC	No. 00505	4.50
10 kV DC	No. 00507	17.00
25 kV DC	No. 00508	17.00
50 kV DC	No. 00509	17.00
10 kV AC	No. 00161	17.00

TEST LEADS

Leads, Removable	
Clips	No. 00115 \$3.25
Alligator Clip	No. 07500 3.25
Probe Tip	No. 07538 3.75
Thermocouple	
(5 ft., for 255)	No. 00163 6.00

CARRYING CASES

Vinyl Ever-Redy	No. 00805	\$15.50
Leather Sheath	No. 01818	13.50
Utility	No. 00549	20.00

MODEL 150 AMP-CLAMP ADAPTER FOR AC AMPERE MEASUREMENTS

Clamp-on AC ammeter adapter allows measurement to be made without breaking circuit being tested. Simply plugs into 260®, 261, 270, 250 or 255 VOM. Ranges: 0-5, 10, 25, 50, 100, 250 AC Amperes. Readout is on VOMs 0-2.5 VAC scale. May be used with any VOM having 0-2.5, or 0-3 VAC range. When used with 0-3 VAC adapter ranges are from 0-6 to 0-300 AC Amperes. Rugged construction, and easy to use.

Model 150 Cat. No. 00532 complete with 00533 test lead †\$30.00

Test Lead, Cat. No. 00533 2.25

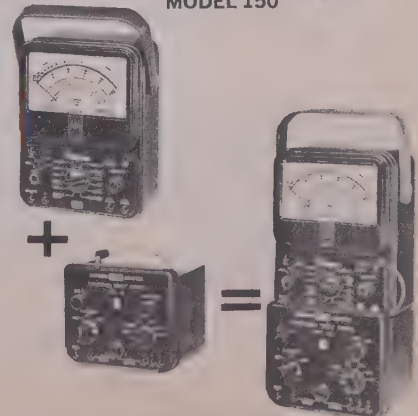
Carrying Case No. 00548 8.00

† Requires adapter pins #02056, when used with Model 160.

260 ADD-A-TESTER ADAPTERS

MODEL	RANGE	ACCURACY
TRANSISTOR TESTER MODEL 650 — \$44.00	BETA: 0-5, 50, 250. Ico: 0-100 μa.	BETA: ±5%* Ico: ±3%*
DC VTVM MODEL 651 — \$52.00	VOLTS: 0-0.5, 1.0, 2.5, 10, 25, 50, 100, 250, 500 INPUT IMPEDANCE: Greater than 10megΩ on all ranges.	±3% F.S.*
TEMPERATURE TESTER MODEL 652 — \$49.00	-50°F to 100°F, 100°F to 250°F. Sensing Element: Thermistor.	±2°F from -30° to +220°F, ±4°F over remainder of range.
AC AMMETER MODEL 653 — \$30.00	0-0.25, 1.0, 2.5, 12.5, 25 Amps. Frequency range: 50-3000 cycles.	±3% F.S.
AUDIO WATTMETER MODEL 654 — \$34.00	LOAD RANGES: 4, 8, 16, 600 ohms. WATTAGE: 25 watts (8, 600Ω), 50 watts (4, 16Ω) continuous. Intermittent duty: 50 and 100 w.	±10% (±7% with 261 and 270)
MICROVOLT ATTEN. MODEL 655 — \$30.00	2.5 to 250,000 microvolts in decade steps. Frequency: DC to 20kc.	±1 DB
BATTERY TESTER MODEL 656 — \$30.00	Up to 90 volts.	±3% F.S.*
MILLIOHMMEETER MODEL 657 — \$54.00	0-0.1 (150 ma. max. output), 0.25 (103 Ma.), 0.5 (90 Ma.), 1.0 (80 Ma.).	±2% F.S. (±1½% with 261 and 270).
DC AMMETER MODEL 661 — \$33.00	DC AMPERES: 0-10, 2.5, 5, 10, 25.	±2% F.S. (±1½% with 261 and 270).

* 1% or better accuracy when used with 261 or 270.



Leather Carrying Case
for Combination 260 and
Adapter, Catalog #1871 \$17.50

Simpson

DIGITAL VOLT-OHM-MILLIAMMETER

NEW SIMPSON 460 PORTABLE DIGITAL VOM



UNBEATABLE PORTABILITY and RANGE COVERAGE

Highly accurate, compact, lightweight, multi-use Digital VOM for lab, in field, or general testing. No separate battery pack or power supply needed. Self-contained battery or line operation. Non-blinking 3½ digit display of 26 most used ranges . . . 5 each AC/DC voltages and AC/DC currents . . . 6 resistances . . . with "plus" and "minus" and overrange . . . analog meter readout shows peaks or nulls at a glance. Analog to digital converter uses the dual slope technique. Batteries are automatically recharged whenever unit is line operated.

460 Complete with instruction manual (less batteries).....\$395.00
460 For 220 VAC/50 Hz operation (less batteries).....\$400.00
460 Vinyl Carrying Case #01614.....\$ 19.50
460 High Voltage Probe, 30KV DC, #00159.....\$ 17.00

SPECIFICATIONS

DC Volts: (Mean Sensing, RMS Calibrated)			
Range	Maximum Indication	Input Impedance	Overload Protection
200 mV	199.9 mV	10 M ohms	350 V
2 V	1.999 V	1000 M ohms	350 V
20 V	19.99 V	10 M ohms	1000 V
200 V	199.9 V	10 M ohms	1000 V
1000 V	1000 V	10 M ohms	1000 V

AC Volts:			
Range	Maximum Indication	Input Impedance	Overload Protection
200 mV	199.9 mV	1 M ohms at 150 Pf	250 V
2 V	1.999 V	1 M ohms at 150 Pf	250 V
20 V	19.99 V	1 M ohms at 150 Pf	600 V
200 V	199.9 V	1 M ohms at 150 Pf	600 V
1000 V	600 V	1 M ohms at 150 Pf	600 V

DC Amps:			
Range	Maximum Indication	Voltage Drop	Overload Protection
200 μ A	199.9 μ A	100 mV	3 Amps
2 mA	1.999 mA	100 mV	3 Amps
20 mA	19.99 mA	100 mV	3 Amps
200 mA	199.9 mA	100 mV	3 Amps
1000 mA	1999 mA	100 mV	3 Amps

AC Amps:			
Range	Maximum Indication	Voltage Drop	Overload Protection
200 μ A	199.9 μ A	100 mV	3 Amps
2 mA	1.999 mA	100 mV	3 Amps
20 mA	19.99 mA	100 mV	3 Amps
200 mA	199.9 mA	100 mV	3 Amps
1000 mA	1999 mA	100 mV	3 Amps

Resistance:			
Range	Maximum Indication	Test Current	Overload Protection
200 ohms	199.9 ohms	1 mA	250 V RMS
2 K ohm	1.999 K ohm	100 μ A	250 V RMS
20 K ohm	19.99 K ohm	10 μ A	250 V RMS
200 K ohm	199.9 K ohm	10 μ A	250 V RMS
1000 K ohm	1999 K ohm	1 μ A	250 V RMS
20 M ohm	19.99 M ohm	100 nano A	250 V RMS

Accuracy: (from +10°C to 40°C) DC Voltage Measurement: $\pm 0.1\%$ of reading ± 1 digit. AC Voltage Measurement: $\pm 0.5\%$ of reading ± 1 digit, 40 Hz to 10 kHz; 1.0% of reading ± 1 digit, 10 kHz to 20 kHz. DC Current Measurement: $\pm 0.2\%$ of reading ± 1 digit (exception 1000 MA range which is $\pm 0.5\%$ of reading ± 1 digit). AC Current Measurement: $\pm 0.7\%$ of reading ± 1 digit (exception on 1000 MA range which is $\pm 1.0\%$ of reading ± 1 digit).

Resistance Measurement: $\pm 0.5\%$ of reading ± 1 digit (exception on the 20M ohm range which is $\pm 1\%$ of reading ± 1 digit).

Resolution: AC and DC Voltage Measurements: 100 Microvolts. AC and DC Current Measurements: 100 Nanoamps. Resistance Measurements: 0.1 Ohms.

Overrange Capability: Linear to 150% overrange.

(Based on indication of 1,000, except for the highest AC and DC voltage ranges.)

Normal Mode Rejection: 35 dB min. with 1 K unbalanced at 60 Hz.

Common Mode Rejection: 80 dB min. with 1 K unbalanced at 60 Hz. In battery operation and not charging, the CMRR is extended.

DC Polarity Selection: Automatic, "+" or "-" indication.

Numeric Display: Non-blinking with storage. Conversion rate: 5 per second. Overrange Indicator: Automatic beyond 1999 counts.

Analog Display: 1½" edgewise meter.

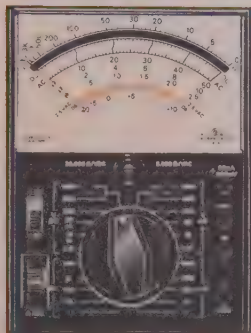
Power Requirements: Input: 115 VAC (230 VAC if specified) $\pm 10\%$. 50 - 60 - 400 Hz. 10 VA Nominal - AC operation only. 15 VA Nominal - Battery charging with unit turned on. 7 VA Nominal - Battery charging unit turned off. **Battery Operation:** Four nickel cadmium "D" size rechargeable batteries 1.25 V, 4 Ampere-Hours. (Batteries not supplied). Operation time with fully charged batteries under constant use - 7 hours. Recharge time - 15 hours nominal. Unit can be operated while the batteries are being recharged.

Operating Temperature: 0°C to +50°C. Reference: 25°C $\pm 1^\circ$ C.

Weight: (with batteries) 6 lbs., 8 oz. (without batteries) 6 lbs., 4 oz.

Size: (H x W x D) 9¼" x 8½" x 7⅞".

160 HANDI-VOM VOLT-OHM-MILLIAMMETER



Now even better . . . with $\pm 2\%$ DC and $\pm 3\%$ AC accuracy. Just 3¼" wide, and a mere 12 ounces in weight, yet the 160 Handi-VOM has the accuracy and sensitivity of a full size VOM. The self-shielding Taut Band movement features outstanding repeatability and freedom from stray magnetic fields. And the movement is varistor protected from even 200,000% overloads. Built for today's VOM needs, including solid-state circuit testing, the 160 has 0-0.25 accurate ohms measurements. Complete with alligator clip test leads and operator's manual.

SPECIFICATIONS

	160
Ranges — DC Volts	0-0.25, 1.0, 2.5, 10, 50, 250, 500, 1000
AC Volts	0-2.5, 10, 50, 250, 500, 1000
DC Microamperes	0-50
DC Milliamperes	0-1, 10, 100, 500
DC Amperes	NONE
AC Milliamperes	NONE
AC Amperes	NONE
DB Scale (1 mW into 600 Ω)	-20 to +10, -8 to +22, +6 to +36, +20 to +50
DC Resistance	R x 1 (30 Ω center), R x 10, R x 100, R x 1k, R x 10k
Accuracy — DC	$\pm 2\%$
AC	$\pm 3\%$
Sensitivity — DC	20,000 Ω /volt
AC	5,000 Ω /volt
Movement Type	Taut Band
Illuminated Scale	NO
Light-Up Continuity Indicator	NO
Scale Length	3.0"
Dimensions (HxWxD)	4¼" x 3¼" x 1¾"
Net Weight	12 ounces
Price	\$87.50

160 Handi-VOM.....\$57.50
160M Handi-VOM w/mirror scale.....\$59.50
160 Leather Carrying Case #2225.....\$11.00
160 Vacuum Formed Carrying Case #2929.....\$11.00
160 Probe Tip Leads #02055.....\$ 3.50
150 AC Amp-Clamp Adapter #00532.....\$30.00
Adapter Pins for above #02056.....\$ 1.55

Simpson

VOLT-OHM-MILLIAMMETERS

MODEL 202 — ACCU-LOG™ — A NEW CONCEPT IN VOMS

The first VOM to give you consistent "percent-of-reading" accuracy... anywhere on the readout scale!

ACCU-LOG has a special quasi-logarithmic scale. It gives you "percent-of-reading" accuracy anywhere on the readout scale, yet still allows easy zero adjustment with a linear portion at the low end. There's no need to keep readings at the high end of the scale, or worry about "percent-of-full scale" accuracy limitations. Other features you'll like: two low power ohmmeter ranges, overload protected taut band movement, and a large 7" antiparallax mirror scale.

External battery compartment makes battery changing faster, easier!

VOLTAGE RANGES

DC: 0.03 - 0.33; 0.1 - 1.1; 1 - 11; 10 - 110; 30 - 330; 100 - 1100 volts

AC: 1 - 11; 10 - 110; 30 - 330; 100 - 1100 volts

CURRENT RANGES

DC: 0.01 - 0.11; 0.1 - 1.1; 1 - 11; 10 - 110; 100 - 1100 milliamperes

LOW POWER RESISTANCE RANGES

Rx1 (4 ohm center, 2.7 mW maximum load); Rx10 (40 ohm center, 0.27 mW maximum load)

RESISTANCE RANGES

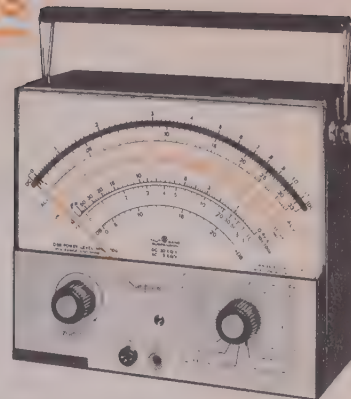
Rx1k (7k-ohm center); Rx10k (70k-ohm center); Rx100k (700k-ohm center)

SENSITIVITY

DC: 20k Ω/V AC: 5k Ω/V

ACCURACY

DC: $\pm 2\%$ of reading AC: $\pm 3\%$ of reading Resistance: $\pm 3^\circ$ of arc



ACCU-LOG Model 202 complete with test leads, batteries, and operator's manual\$100.00

Carrying Case, Vinyl with Lead Storage Space, Cat. No. 00577....\$ 17.00

Carrying Case, Vinyl with Sponge Lining, Cat. No. 01565\$ 17.00

7-INCH VOMs

MODEL 269 Series 3 100,000 Ω/V



NEW 269-3

EASIER TO READ 7" SCALES

Now improved!... with a self-shielding Taut Band meter movement that gives better repeatability, plus faster pointer action. This new meter movement is combined with a new mirror scale; and knife-edge pointer, eliminating parallax errors. Large, readable scale is over 6 inches long. Accuracy is $\pm 2\%$ DC and $\pm 3\%$ AC, with new range coverage, too. One switch selects all 27 ranges. Battery replacement is quick and easy with the snap-on compartment. And the new 269-3 is protected from overloads with a replaceable 1.5 Ampere fuse at the input, and a varistor at the meter movement.

Complete with No. 00115 test leads, 4000 volt DC probe extension, and operator's manual.

Model 269-3\$99.50

MODEL 263

64-RANGE DUAL-SENSITIVITY VOM
1½% DC ACCURACY

Dual sensitivity Volt-Ohm-Milliammeter has overlapping ranges — let's you place reading at the high end of scale for optimum accuracy. Large 7" scale makes readouts easier, too. Varistor protects the movement from even 200,000 per cent overloads! 1½ volt alkaline battery assures maximum stability on low ohms range. External battery compartment for easiest replacement. See the chart below for complete specifications. Complete with No. 00115 test leads, batteries, and operator's manual.

Model 263\$99.50

MODEL 262 Series 3

Popular 7" VOM has 34 ranges, movement overload protection, and more. See complete specifications below. Complete with No. 00115 test leads, batteries, and operator's manual.

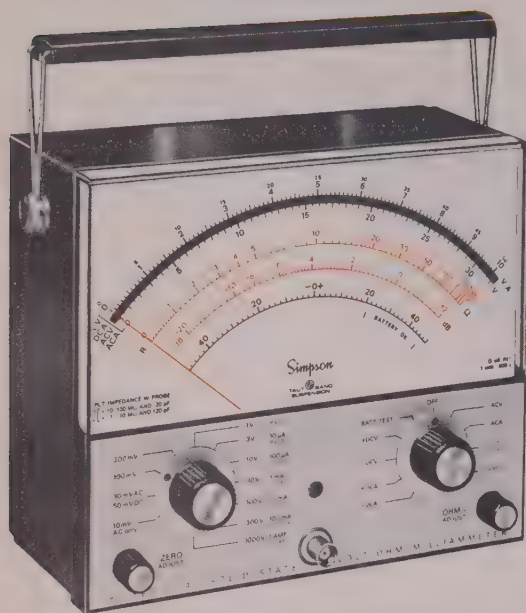
Model 262-3\$87.50

	MODEL 262-3	MODEL 263	MODEL 269-3
RANGES:	20,000 Ω/V DC 5,000 Ω/V AC	20,000 Ω/V DC • 10,000 Ω/V DC 10,000 Ω/V AC • 5,000 Ω/V AC	100,000 Ω/V DC 5,000 Ω/V AC
DC Volts	0-1.6/0-8/0-40/0-160/0-400/ 0-1600/0-4000	0-0.15/0-0.75/0-3/0-7.5/0-30/0-75/0-300/ 0-750/0-3000 @ 20k Ω/V 0-0.3/0-1.5/0-6/0-15/0-60/0-150/0-600/ 0-1500/0-6000 @ 10k Ω/V	0-1.6/0-8/0-40/0-160/0-400/ 0-800/0-1600/0-4000
AC Volts	0-3/0-8/0-40/0-160/0-400/0-800	0-2.5/0-7.5/0-30/0-150/0-750 @ 10k Ω/V 0-5/0-15/0-60/0-300/0-1500 @ 5k Ω/V	0-3/0-8/0-40/0-160/0-400/0-800
DC Microamperes	0-80/0-160	0-75 @ 150 MV; 0-150 @ 300 MV	0-16/0-160
DC Milliamperes	0-1.6/0-16/0-160	0-0.75/0-7.5/0-75/0-750 @ 150 MV; 0-1.5/0-15/0-150 @ 300 MV	0-1.6/0-16/0-160
DC Amperes	0-1.6/0-8	0-7.5 @ 150 MV; 0-1.5/0-15 @ 300 MV	0-1.6/0-8
DB Scale (11MW-600)	-12 to +45.5 db in four ranges	-20 to +75.5 db in 10 ranges	-12 to +45.5 db in four ranges
Output Ranges	0.1 mfd capacitor in series with all AC Voltage ranges through 160 Volts	0.1 mfd capacitor in series with all AC Voltage ranges through 300 Volts	External 0.1 mfd capacitor required where DC is present.
Resistance Ranges	R $\times$ 1 0-500 Ω	R $\times$ 1 0-500 Ω	R $\times$ 1 0-200 Ω
	R $\times$ 10 0-5000 Ω	R $\times$ 10 0-5000 Ω	R $\times$ 10 0-20K Ω
	R $\times$ 100 0-50K Ω	R $\times$ 100 0-50K Ω	R $\times$ 100 0-200K Ω
	R $\times$ 1K 0-500K Ω	R $\times$ 1K 0-500K Ω	R $\times$ 1K 0-2 meg Ω
	R $\times$ 10K 0-5 meg Ω (4.5 Ω Center)	R $\times$ 10K 0-5 meg Ω (4.5 Ω Center)	R $\times$ 10K 0-20 meg Ω (12 Ω center)
ACCURACIES:			
DC Volts	$\pm 3\%$	0-0.15 to 1500 $\pm 1\frac{1}{2}\%$; 0-3000 to 6000 $\pm 2\frac{1}{2}\%$	0-1.6 to 1600 $\pm 2\%$; 0-4000 $\pm 3\%$
AC Volts	$\pm 4\%$	$\pm 3\%$	0.3 to 800 $\pm 3\%$
DC Current	$\pm 3\%$	$\pm 1\frac{1}{2}\%$	All Ranges $\pm 2\%$
R $\times$ 1	$\pm 3^\circ$ of Arc	$\pm 3^\circ$ of Arc	$\pm 3^\circ$ of Arc
R $\times$ 10, R $\times$ 100K	$\pm 2\frac{1}{2}^\circ$ of Arc	$\pm 2\frac{1}{2}^\circ$ of Arc	$\pm 2\frac{1}{2}^\circ$ of Arc
Scale Length		6.2 inches	
Dimensions		6" x 7¼" x 3"	
Net Weight		4 lbs.	

Simpson FET-INPUT VOLT-OHM-MILLIAMMETERS

NEW! Model 314 Solid-State FET VOM

- Measures low power and conventional ohms
- Voltage ranges have 10 Megohm and 100 Megohm input impedances
- AC and DC current ranges to $\mu 10A$ Full Scale

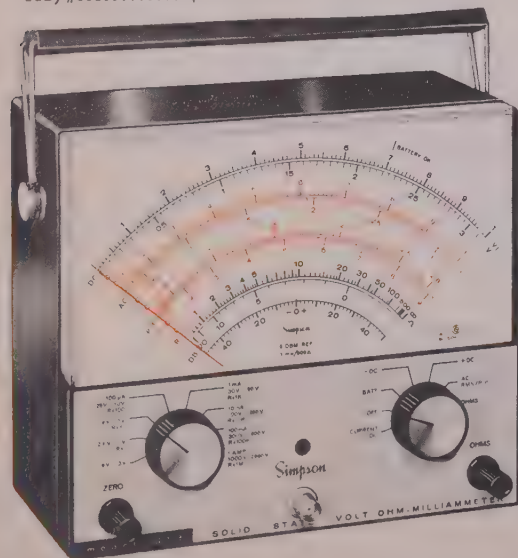


Model 314 complete with X1, X10 (AC/DC Ohms) probe #00194, batteries and instruction manual.....\$195.00

Vinyl Case, #00577.....\$ 17.00

Sponge lined Vinyl Case, #01565.....\$ 17.00

RF probe (10kHz-250 MHz, $\pm 1dB$) #00193.....\$ 11.75



Model 313 complete with AC/DC probe, batteries, and operator's manual.....\$130.00

Servicing, design, production or QC . . . if you work on today's circuitry you know that your test instrument requirements have increased. Here is the VOM that can meet your needs, today. It has 10 and 100 Megohm input capability, so it won't load semiconductor circuits. The low power ohms ranges let you take accurate readings without activating or damaging ICs. A total of 58 ranges are available—including DC and AC current, voltage, and conventional ohms ranges. 7-inch anti-parallax mirror scale provides exceptional readability. Accuracy and repeatability are assured by Simpson's taut band movement that can never develop error-causing friction. And, of course, the new Model 314 is completely portable—battery powered to eliminate bothersome line cord restrictions.

SPECIFICATIONS

VOLTAGE RANGES

DC: 50 mV, 100 mV, 300 mV, 1 V, 3 V, 10 V, 30 V, 100 V, 300 V, 1000 V

AC: 10 mV, 30 mV, 100 mV, 300 mV, 1 V, 3 V, 10 V, 30 V, 100 V, 300 V, 1000 V

CURRENT RANGES

DC: 10 μA , 100 μA , 1 mA, 10 mA, 100 mA, 1 A

AC: 10 μA , 100 μA , 1 mA, 10 mA, 100 mA, 1 A

RESISTANCE RANGES

R x 1 (10 ohms center), R x 10, R x 100, R x 1K, R x 10K, R x 100K, R x 1M

DECIBEL RANGES

-40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60

ACCURACY

$\pm 2\%$ F.S. DC, $\pm 3\%$ F.S. AC

INPUT IMPEDANCE

10 Meg Ω AC and DC (10 x probe switch for 100 Meg Ω)

FREQUENCY RESPONSE

Flat to 100 kHz

Model 313 Solid-State FET VOM

- 11 Meg Ω DC Input
- Battery Operated

The high impedance of a VTVM in a battery operated instrument! Operates for 300 hours or more on a single set of batteries. FET-input. All voltage ranges fully overload protected. Large, easy-to-read 7" scale. Built-in "battery check" switch. Self-shielding movement.

SPECIFICATIONS

VOLTAGE RANGES

DC: 0-0.3, 0-1.0, 0-3.0, 0-10, 0-30, 0-100, 0-300, 0-1000

AC: 0-0.3, 0-1.0, 0-3.0, 0-10, 0-30, 0-100, 0-300, 0-1000 rms

0-0.9, 0-2.8, 0-9.0, 0-28, 0-90, 0-280, 0-900, 0-2,800 V

RESISTANCE RANGES

R x 1 (10 ohms center), R x 10, R x 100, R x 1K, R x 10K, R x 100K, R x 1M

CURRENT RANGES

DC: 0-0.1 mA, 0-1.0 mA, 0-10 mA, 0-100 mA, 0-1.0 A

ACCURACY

$\pm 2\%$ F.S. DC, $\pm 3\%$ F.S. AC

INPUT IMPEDANCE

10 Meg Ω AC and DC (10 x probe switch for 100 Meg Ω)

FREQUENCY RESPONSE

Flat to 100 kHz

Simpson ELECTRONIC VOLT-OHMMETERS

MODEL 312 AC/DC VTVM

• 16 Meg Ω DC Input Impedance

Offers 40% less circuit loading than most conventional VTVMs. Also features large 7" scale with a tracking error of 1% or less and full scale accuracies of $\pm 3\%$ on all AC and DC ranges. Built-in movement overload protection. $\frac{1}{2}$ -volt DC range for today's solid-state circuits.

Model 312 for 105/125 V, 50/60 Hz. Complete with AC/DC probe, operator's manual. \$95.00

Model 312 Export, 220 V, 50 Hz. \$102.00

SPECIFICATIONS

VOLTAGE RANGES

DC: 0-0.5-1.5-5-15-50-150-500-1500

AC: 0-1.5-5-15-50-150-500-1500 rms

0-4-14-40-140-400-1400-4000 V peak-to-peak

RESISTANCE RANGES

R x 1 (10 ohms center), R x 10, R x 100, R x 1K, R x 10K, R x 100K, R x 1M

ACCURACY

$\pm 3\%$ F.S. AC and DC

INPUT IMPEDANCE

16 Meg Ω DC, 1 Meg Ω AC

FREQUENCY RESPONSE

$\pm 3\%$ from 15 Hz to 3 MHz (useable to 250 MHz with optional RF probe)

MODEL 311-3 AC/DC VTVM

• 22 Meg Ω DC Input

Supplied complete with AC/DC probe, ground lead, operator's manual. For 117 V, 50/60 Hz.
311-3 \$91.00

SPECIFICATIONS

Ranges: 0-1.5 to 1500 DC V and AC RMS V in 7 ranges. 0-4 to 4000 AC P-P V in 7 ranges. 0-1.5 to 1500 AF V in 7 ranges. Rx1 (10 Ω center) to Rx1 Meg in 7 ranges.

Accuracy: $\pm 3\%$ (FS) DC, $\pm 5\%$ (FS) AC.

Input Impedance: 22 Meg Ω DC, 2.2 Meg Ω AC.

Frequency Response: Flat to 100 kHz (useable to 250 MHz with optional RF probe).

MODEL 303-2 AC/DC VTVM

• Rugged Companion to the 260®

Supplied complete with AC/DC probe, ground lead, operator's manual. For 117 V, 50/60 Hz.
303-2 \$92.00
303-2RT (in roll-top case) 97.00
303-2 Export, 220 V, 50 Hz 98.00
303-2RT Export, 220 V, 50 Hz 104.00

SPECIFICATIONS

Ranges: 0-1.2 to 1200 DC V and AC RMS V in 6 ranges. 0-1.2 to 60 AF V in 3 ranges. -20 to +63 dB in 6 ranges. Rx1 (10 Ω center) to Rx1 Meg in 6 ranges.

Accuracy: $\pm 3\%$ (FS) DC, $\pm 5\%$ (FS) AC.

Input Impedance: 10 Meg Ω DC, 275k Ω AC.

Frequency Response: Flat to 100 kHz (useable to 100 MHz with optional RF probe).

MODEL 715 AC VTVM

• dB Markings for Audio Work

Supplied complete with shielded input cable, operator's manual. For 115 V, 50/60 Hz.
715 \$84.00
715 Export, 220 V, 50 Hz 91.00

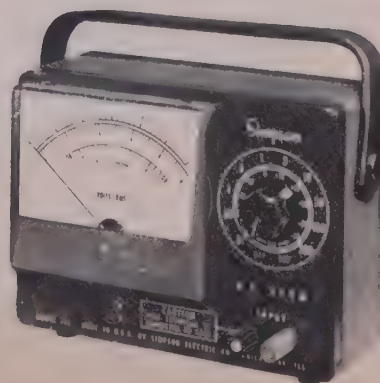
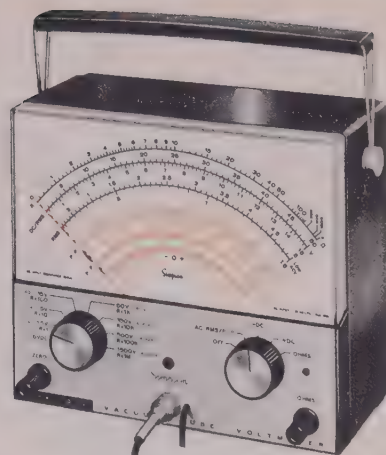
SPECIFICATIONS

Ranges: 0-0.01 to 300 AC RMS V in 10 ranges. -52 to +52 dB in 10 ranges (1 mW into 600 Ω = "0" dB).

Input Impedance: 1 Meg Ω .

Accuracy: $\pm 5\%$ (FS).

Frequency Response: ± 1 dB from 10 Hz to 400 kHz.



Simpson

NOISE AND SOUND LEVEL TESTER

NEW Model 885 SOUND LEVEL METER

- Quickly, accurately measures noise anywhere—industrial plants, theatres, auditoriums, studios, offices, or any exterior or interior location.
- Simple, easy to operate
- All solid-state reliability
- Full coverage, 40 to 140 db, A, B, C weightings
- Rugged calibrated ceramic microphone
- High-impact polycarbonate case
- Helps you meet O.S.H.A.* and Walsh-Healy requirements.
- *Occupational Safety and Health Act, 1970
- Conforms to ANSI standards, SI-4, 1971, Type 3
- Operates 50 hours on 2 standard 9V batteries
- Built-in tripod mount also accommodates optional safety wrist strap
- Output jack permits use with recorders and analyzers.

SPECIFICATIONS

Sound Level Measurement Range: From 40 dB to 140 dB in 10 dB increments with 20 μ Newtons/m² as 0 dB reference.

Accuracy: Within ± 1.0 dB from 63 Hz to 4 kHz, within ± 2.0 dB from 31.5 Hz to 8 kHz. (C weighting with 80 dB reference.)

Calibration: Adjustable with screwdriver from the front panel through use of an appropriate sound source standard coupled to the microphone.

Power Requirements: Two 9V batteries: Burgess 2U6 or equivalent furnished with the Instrument. Operation time: 50 hours (nominal).

Operating Temperature: -10°C to $+50^{\circ}\text{C}$.

Storage Temperature: (batteries removed) -40°C to $+60^{\circ}\text{C}$.

Operating Humidity: 90% RH.

Mechanical Construction: Molded, shielded, gray plastic case with circuit of etched copper on flexible, non-breakable plastic material.

Tripod Mounting: Brass insert in underside of case with 1/4-20 threaded hole (standard size for tripod mounting screws).

Weight: 1 pound (nominal).

Dimensions: 3.63" W x 5.38" H x 2.09" D.

Model 885: Complete with batteries and operator's manual.....\$250.
Carrying Case #00575.....\$9.50
Safety Wrist Strap #00576.....\$2.50

Simpson

AC CURRENT LEAKAGE TESTER

Model 229 AC CURRENT LEAKAGE TESTER

Small leakage currents can be dangerous! And even when they're not, current above the "threshold of perception" can cause a violent reaction from fear, resulting in serious physical injury.

Simpson's new model 229 is designed to test 120 volt AC appliances and electrical equipment in accordance with the proposed U.S. standard. It approximates the normal perception curve to within ± 1.0 dB, and measures currents as small as 5 microamperes.

The 229 is ruggedly built for use on production lines and "in field" servicing. Operation is simple, and all ranges are protected from damage if accidentally subjected to line voltage. It's the ideal instrument for checking the safety of your equipment.

MODEL 229 CURRENT LEAKAGE TESTER

Complete with test leads, batteries, and operator's manual.....\$95.00
Carrying Case, Leather, No. 00805.....15.50

SPECIFICATIONS

Ranges: AC Current: 0-0.3; 1; 3; 10 mA. AC Voltage: 0-150 Volts. Battery Test: Replace—Good.

Resolution: 5 μ A on 0-0.3 mA range.

Accuracy: $\pm 2\%$ at 60 Hz.

Accuracy vs. Frequency: Approximates Dalziel's "Percentile 50 Threshold of Perception Curve" within ± 1.0 dB.*

Input Impedance: 1.5 k-ohms, shunted by a shaping network, on all current ranges.

Input Resistance: 500 k-ohms on voltage range.

Overload Protection: Fully protected up to 150 VAC on all ranges.

* See AIEE Proceedings, Volume 69, Section 0184. The mean value of perception on individuals in test was 1.067 mA at 60 Hz. (Available at major technical libraries.)

**FOR INDUSTRY,
FIELD SERVICE,
LAB and PRODUCTION**

Meets proposed U.S. Standards Committee specification (C101.1) for A.C. current leakage tests.

NEW! MODEL 413 "THERMOSCRIPT"

- Records Temperatures — Unattended for up to 32 days
- Uses No Batteries — No Electrical Power

The fool-proof way to monitor temperatures of perishables in shipment or storage; temperatures in refrigerators, dairies, wine cellars, labs; and ambient temperatures in heating, air-conditioning and drying installations. Gives a written record for any hour, any day. Precision clock motor drives chart for up to 32 days — can be packed right in shipping crates. Inkless recording system never needs re-fills. The model 413 is also ideal for air balancing specialists and other temperature monitoring applications.

Supplied complete with chart paper, three chart speed gears, protective plastic bag, and operator's manual \$145.00

Available in 3 range models:

+30° to +150°F	Catalog No. 23310
0° to +120°F	Catalog No. 23312
-30° to + 90°F	Catalog No. 23314

Accuracy: $\pm 1.5\%$ of range span. (Speed accuracy: 1%).

Response Time: 15 minutes for a 50% change, when subjected to a sudden temperature drop.

Chart Speeds: 24, 48, 96 mm-per-day with interchangeable gears (supplied).

Chart Paper: Pressure sensitive.

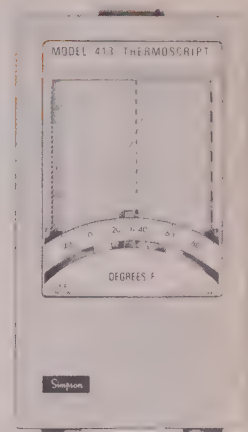
Sensor: Shock-resistant bi-metal type, internally mounted.

ACCESSORIES

	Cat. No.	Each
Stainless Steel Mounting Bracket	23305	\$ 8.00
Carrying Case	23306	10.00
Protective Plastic Bags, Pkg. of 5	23307	1.00

CHART PAPER

	Cat. No.	Per 10 roll Box
+30° to +150°F calibration	23300	\$18.00
0° to +120°F calibration	23302	18.00
-30° to + 90°F calibration	23304	18.00



MODELS 385-3L, 388-3L, 389-3L TEMPERATURE TESTERS

PROBES, LEADS & CARRYING CASES		RANGE & ACCURACY	
MODEL 385-3L TEMPERATURE METER Description Cat. No. Price Surface Temperature Probe 00790 \$10.00 Free Air Temperature Probe 00789 13.00 Additional Thermistor Lead 00010 10.00 30 Ft. Thermistor Lead 00216 11.00 50 Ft. Thermistor Lead 00415 12.00 100 Ft. Thermistor Lead 00416 15.00 150 Ft. Thermistor Lead 00417 19.00 Ever-Redy Leather Carrying Case 08073 12.00		MODEL 385-3L TEMPERATURE METER Model 385-3L is ideal for those fast, accurate temperature checks from -50°F. to +70°F. Lightweight, portable, fits easily in your hand. Three lead model. Takes temperature readings in three different locations with a simple flick of the selector knob. Standard Model has Fahrenheit scale. Supplied with one No. 00010 15 ft. thermistor lead and operator's manual. Size: 3"x5½"x2½". Wt. 1½ lbs. \$47.50	
MODEL 388-3L THERM-O-METER General Purpose Type 00190 \$ 9.00 Surface Temperature Probe Type (1000°F. Max.) 00187 12.00 Rugged Service Lead (8 ft.) 00496 10.00 Ever-Redy Vinyl Carrying Case 05262 15.50		MODEL 388-3L THERM-O-METER Simpson's popular wide range Therm-O-Meter tester measures the temperature of practically anything within -50°F. to +1000°F. Standard model has combination °C. and °F. scale. Sefising Element: Thermocouple (Iron-Constantan). Supplied with internal battery and one 8' general purpose probe No. 00190 and operator's manual. Order additional probes as required. Size: 7½"x6"x2½". Weight: 4 lbs. Model 388-3L for three probes \$87.50	
MODEL 389-3L DUAL RANGE THERM-O-METER Surface Temperature Probe 00790 \$10.00 Free Air Temperature Probe 00789 13.00 Additional Thermistor Lead 00010 10.00 30 Ft. Thermistor Lead 00216 11.00 50 Ft. Thermistor Lead 00415 12.00 100 Ft. Thermistor Lead 00416 15.00 150 Ft. Thermistor Lead 00417 19.00 Ever-Redy Vinyl Carrying Case 05262 15.50		MODEL 389-3L DUAL RANGE THERM-O-METER Model 389-3L temperature tester, using three leads, makes temperature readings in three different locations at the same time; i.e., in a refrigerator, one lead could be connected to the evaporator plate, another to the wall of the food compartment and the third in the center of the food compartment. Readings are made quickly in 15 to 30 seconds depending on the medium being checked. Supplied with °C. and °F. scale. Model 389-3L... \$82.50	
APPLIANCE TESTER MODEL 387 MILLIVOLTMETER Test Prods and Spade Terminals 08379 \$ 3.75 Alligator Clips and Spade Terminals 08376 3.25 Ever-Redy Vinyl Carrying Case 08073 12.00		APPLIANCE TESTER MODEL 387 MILLIVOLTMETER Make gas unit servicing faster, more accurate. Use Simpson's Millivoltmeter. Simply place the probe across the thermocouple terminals and test for the correct value. Checks Safety Thermocouples on Gas-Fired Units. • Furnaces • Boilers • Hot Water Heaters • Heaters • Dryers • Refrigerators Size: 3"x5½"x2½". Wt. 1½ lbs. \$40.00	



Model 230



Model 240



Model 362



Model 372



Model 378



Model 379



Model 390



Model 392

ALL MICROTESTERS HAVE RUGGED PHENOLIC CASES AND MEASURE APPROXIMATELY 3" x 5 7/8" x 2 1/2". WEIGHT: 1 1/2 LBS.

(Microtesters not illustrated are similar in appearance to those shown above.)

MODEL	DESCRIPTION	RANGES	PRICE
230 AC/DC VOM	One of the smallest AC and DC service instruments, yet it contains sufficient ranges to do a complete servicing job. Specifically designed for telephone, teletype and marine use. Excellent troubleshooter. Case, including the front panel, is molded of black phenolic for protection against high voltages.	1,000 Ohms per Volt AC-DC. Voltage Ranges DC: 10v; 50v; 250v; 1,000v. AC: 10v; 250v; 1,000v. Current Ranges DC: 10 ma; 50 ma; 250ma. Resistance Ranges: 0-1000Ω, 0-100kΩ. Accuracies: DC volts ±3% F.S.; AC volts ±4% F.S.; DC resistance ±3° of linear arc from absolute value of resistance measured.	\$45.00 Complete with tests leads No. 08375 and operator's manual
371 AC Voltmeter	Designed primarily for testing line voltages applied to motors, heating equipment and many other industrial applications.	Ranges: 0-150, 0-300, 0-600 volts. Accuracy: ±3% of full scale.	\$40.00
376 AC Voltmeter	Rectifier type, 1000 ohms per volt. Useful in circuits where limited current is present. An excellent output meter when used with proper condenser.	Ranges: 0-5, 10, 25, 50, 100, 250, 500, 1000 AC volts. Accuracy: ±5% of full scale.	\$40.00
377 DC Voltmeter	Resistance, 1000 ohms per volt. Useful in radio servicing and industrial applications.	Ranges: 0-1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 DC volts. Accuracy: ±3% of full scale.	\$40.00
240 AC/DC VOM	The "Hammeter." Specially designed for general application around labs, class room, ham shack, etc. Has voltage ranges of 3000 volts AC or DC to check high voltage on transmitters and receivers.	1,000 Ohms per Volt AC-DC. Voltage Ranges DC: 15v; 75v; 300v; 750v; 3,000v. AC: 15v; 150v; 750v; 3,000v. Current Ranges DC: 15ma; 150ma; 750ma. Resistance Ranges: 0-3,000Ω (300 center); 0-300KΩ (3K center). Accuracies: DC volts ±3% F.S.; AC volts ±4% F.S.; DC resistance ±3° of linear arc from absolute value of resistance measured.	\$40.00 Complete with tests leads No. 08375 and operator's manual
362 Low- Ohmmeter	The two ranges are essentially linear and permit highly accurate readings between 0.1 and 25 ohms. For checking motor armatures; switch and relay contact resistances; shorts between windings and grounds in radio chassis wiring; electrical equipment, etc.	Ranges: 0-5, 0-25 ohms. Accuracy: ±3% of linear arc length.	\$40.00 Complete with calibrated test leads No. 08376
372 Ohmmeter	Provides wide range of resistance measurements in a small package. .2 ohm to 50 megohms. Ideal for use in schools, on test benches or at inspection facilities.	Ranges: 0-500, 0-5000, 0-50,000, 0-500,000 ohms; 0-5, 0-50 megohms. Center Scale: 5, 50, 500, 5,000, 50,000, 500,000 ohms. Accuracy: ±3° of linear arc length.	\$40.00 Complete with tests leads No. 08375 and operator's manual
375 DC Ammeter	Provides complete range from a fraction of an amp to 25 amps without external shunts. Ideal unit for use with unmeted power supplies.	Ranges: 0-1, 2.5, 5, 10, 25 amperes. Accuracy: ±3% of full scale.	\$40.00
370 AC Ammeter	Ideal for checking small motors, line loads, etc., where AC current measurements are required. 60 Hertz. Self-contained current transformer.	Ranges: 0-1, 0-2.5, 0-5, 0-10, 0-25 amperes. Accuracy: ±5% of full scale.	\$40.00
373 DC Milliammeter	General purpose tester. Valuable in a number of applications. Provides DC current measurements from .02 to 1000 ma.	Ranges: 0-1, 5, 10, 25, 50, 100, 250, 1,000 ma. Accuracy: ±3% of full scale.	\$40.00
378 AC Milliammeter	Five separate ranges. Typical applications are transformer vacuum tube tests. Contains current transformer and indicating instrument in one case.	Ranges: 0-5, 25, 100, 250, 1,000 ma. Accuracy: ±5% of full scale.	\$40.00
379 Battery Tester	Provides accurate indications of condition of all standard flashlight, hearing aid (mercury cells), radio batteries.	Ranges: 0-1.5, 4.5, 6.0, 7.5, 9.0, 15.0, 22.5, 30.0, 45.0, 67.5, 90.0v.	\$40.00 Complete with tests leads No. 08375 and operator's manual
374 DC Microammeter	Can be used with external resistors or multipliers as high sensitivity voltmeter at 20,000 ohms per volt. Can be shorted out of circuit by use of selector knob.	Ranges: 0-50, 100, 250, 500, 1,000 micro-amperes. Accuracy: ±3% of full scale.	\$40.00
390 AC Volt-Amp- Wattmeter	The most popular tester for AC/DC volts, AC amps and AC watts with one meter. Rugged... useful for practically any appliance.	Volts: 0-150, 300. Amps: 0-3, 15. Watts: 0-300, 600, 1,500, 3,000. Accuracy: ±5% of full scale.	\$70.00 Complete with test cord assembly No. 08418 and operator's manual
391 AC-DC Volt- Wattmeters	Simultaneous reading of volts and watts. Has separate meters, built-in cord and plug for connection to line outlet... separate switches for range selection.	3,000 Watts Maximum AC or DC Range. Volts: 0-130, 0-260. Watts: 0-1,500, 0-3,000. Accuracy: ±5% of full scale.	\$64.00 Supplied with cord, plug, and operator's manual Leatherette Carrying Case Part No. 03413 — \$12.00
392 AC-DC Volt- Wattmeters	Simultaneous readings of volts and watts. Has separate meters, built-in cord and plug for connection to line outlet... separate switches for range selection.	5,000 Watts Maximum AC or DC Range. Volts: 0-130, 0-260. Watts: 0-1,000, 0-5,000. Accuracy: ±5% of full scale.	\$69.00 Supplied with cord, plug, and operator's manual Leatherette Carrying Case Part No. 03413 — \$12.00

Ever-Ready Carrying Case, Part No. 04299 \$10.50 — for all Micro-Testers except Models 391 & 392.

Models 391 & 392 Carrying Case, Part No. 03413 \$12.00.
All prices are dealers net, subject to change without notice.

Simpson

MULTI-TESTERS

Model 256 and 257 CAPACITANCE and AC CURRENT TESTERS

Both of these new Simpson VOMs have built-in capacitance and high Megohm ranges! The high voltage necessary for these measurements is supplied from an external source (which can simply be line voltage where AC is required). Overload circuit-breaker protects all ranges except 100 volts and higher. Supplied complete with test leads and operator's manual.

SPECIFICATIONS

MODEL 256 Ranges: DC Volts: 0-0.1, 0.5, 2.5, 10, 25, 100, 250, 500, 1000, 5000. AC Volts: 0-0.5, 2.5, 10, 25, 100, 250, 500, 1000, 5000. DC Microamperes: 0-100. DC Milliamperes: 0-0.5, 2.5, 10, 50. DC Amperes: 0-0.25, 1, 5. AC Milliamperes: 0-0.5, 2.5, 10, 50. AC Amperes: 0-0.25, 1, 5. dB Scale (1 mW into 600 Ω): -34 to -4, -20 to +10, -8 to +22, 0 to +30, +12 to +42, +20 to +50, +26 to +56. DC Resistance: R x 1 (30 Ω center), R x 1 k, R x 10 k, R x 1 Meg.*

AC Resistance: R x 1 (1 Meg Ω center)**. Capacitance: 100 pF to 20,000 pF**, 2,000 pF to 5 μ F**. Output Ranges: 0.1 μ F capacitor in series with AC voltage from 10 thru 250 VAC.

Accuracy: DC $\pm 1.0\%$, AC $\pm 1.5\%$. Sensitivity: AC 2,000 Ω /V, DC 25,000 Ω /V.

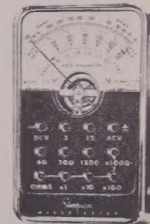
MODEL 257 Ranges: DC Volts: 0-0.1, 0.5, 2.5, 10, 25, 100, 250, 500, 1000, 5000. AC Volts: 0-10, 50, 250, 1000. DC Microamperes: 0-10, 50, 250. DC Milliamperes: 0-1, 5, 25, 100. DC

Amperes: 0-1. dB Scale (1 mW into 600 Ω): -8 to +22, -6 to +36, +20 to +50. DC Resistance: R x 1 (30 Ω center), R x 1 k, R x 100 k, R x 10 Meg.* AC Resistance: R x 1 Meg (1 Meg Ω center)**. Capacitance: 2,000 pF to 5 μ F**. Output Ranges: 0.1 μ F capacitor in series with AC voltage ranges from 10 thru 250 VAC.

Accuracy: DC $\pm 1.5\%$, AC $\pm 2.5\%$. Sensitivity: AC 20,000 Ω /V, DC 100,000 Ω /V.

Model 256 \$125.00
Model 257 95.00

Manufactured in Austria.
(See Page 35 for accessory shunts.)



MODEL 355 MIDGETESTER®

So small (2 3/4" x 4 1/2" x 1") it easily slips into your shirt pocket. No wonder the 355 Midgetester® is popular with those who must make basic voltage and resistance measurements "in the field." Complete with test leads and operator's manual.

SPECIFICATIONS

Ranges: DC and AC Volts: 0.3, 12, 60, 200, 1200. DC Resistance: R x 1 (120 Ω center), R x 10, R x 100, R x 1 k. Accuracy: DC $\pm 3\%$, AC $\pm 5\%$. Sensitivity: AC and DC 10,000 Ω /V.

355 Midgetester® \$50.00



Model 466 HANDISCOPE®

Compact, light weight, and rugged. 5" general purpose oscilloscope has vertical deflection sensitivity of 30 mV/inch. Frequency response: 15 Hz to 100 kHz, ± 1 dB. 6 dB down at 250 kHz. Usable to 1 MHz. 7 7/8" x 12 1/4" x 16 1/4". Weight: 19 lbs.

446 Handiscope® for use on 110 VAC, 50-60 Hz. Complete with test leads and operator's manual \$190.00

Dual Voltage 446 Handiscope®. As above, but for 110 or 220 VAC, 50-60 Hz \$214.00



Model 458 COLORSCOPE

7" oscilloscope with both wide band (40 mV/inch sensitivity) and narrow band (15 mV/inch sensitivity) operating modes. In wide band operation, frequency response is flat (± 1 dB) up to 4.5 MHz. Faithfully displays color burst frequency. Narrow band flat (± 2 dB) up to 300 kHz. Weight: 29 lbs.

458 Colorscope, for use on 110 VAC, 50-60 Hz. Complete with operator's manual \$420.00

Dual Voltage 458 Colorscope. As above, but for 110 or 220 VAC, 50-60 Hz \$430.00
Model 739 Probe Kit (see page 31) \$ 50.00

Simpson

STRIP CHART RECORDERS

MODEL 603

SPECIFICATIONS

Accuracy of Recording	$\pm 2.5\%$ of Full Scale
DC range models	$\pm 4.0\%$ of Full Scale
AC range models	10 milliseconds (nominal)
Event channel response time	115 volts/60 Hz.
Event Indicator Voltage	1 1/2/6/12/18 inches-per-hour (38/152/305/457 mm-per-hour)
Built-in Chart Speeds (Switch Selected)	2 seconds
Impression Rate	Pressure Sensitive, 3" wide, 63 feet long.
Chart Paper	Optional
Take-up Reel	Synchronous, 115 volts/60 Hz.
Motor Drive	7 1/2" x 4 3/4" x 2 3/4"
Size	2 1/2 lbs.
Weight	



Wide selection of ranges. Use inkless pressure sensitive paper. Rugged Taut Band movement is shockproof. Meter also provides continuous readings of the measured value. Four built-in chart speeds are switch selected. Available in AC voltage, AC current, DC voltage, and DC current measuring ranges. Each has a built-in event indicator. Compact for easy panel mounting or portable use. Mounting hardware included.

RANGES

Catalog Number	Range	Channel Event Voltage	Price
20201	0-50 DC μ A	110 VAC	\$107.00
20202	0-100 DC μ A	110 VAC	102.00
20203	0-250 DC μ A	110 VAC	98.00
20205	0-1 DC mA	110 VAC	90.00
20207	0-5 DC mA	110 VAC	97.00
20211	0-50 DC mA	110 VAC	97.00
20215	0-500 DC mA	110 VAC	97.00
20218	0-5 DC Amps	110 VAC	98.50
20219	0-50 DC mV	110 VAC	93.00

RANGES

Catalog Number	Range	Channel Event Voltage	Price
20225	0-15 DC Volts	110 VAC	\$97.00
20227	0-50 DC Volts	110 VAC	97.00
20230	0-150 DC Volts	110 VAC	96.00
20250	0-5 AC Amps	110 VAC	120.00
20270	0-5 AC Volts	110 VAC	102.00
20280	0-150 AC Volts	110 VAC	102.00
20285	0-300 AC Volts	110 VAC	104.00
20286	100-130 AC Volts	110 VAC	105.00

CHART PAPER

Calibration	Catalog Number	Price per box of 6 rolls
50 division (for use with #20250)	20095	\$13.55
60 division (for use with #20286)	20096	13.55
50 division*	20097	\$13.55
60 divisions*	20099	13.55
75 divisions*	20098	13.55

ACCESSORIES

	Catalog Number	Price
Automatic take-up reel	20195	\$15.00
Carrying case, vinyl	20196	20.00
Cycle indicator cord	20197	2.50
Power cord	20198	2.50
Test cord set	20199	2.50

*Standard

CARRYING CASES

Protection and carrying convenience for your instruments. Keep your testers in tip top condition—clean, always ready for instant use.



Ever-Redy Carrying Case
For 250, 260, 261, 270, 303
Cat. No. 0805.....\$15.50



Roll Top Safety Case
For 260, 261, 303, 270
Cat. No. 6192.....\$13.00



Ever-Redy Carrying Case
For 262, 263, 267, 268,
269, 388-3L, 389-3L
Cat. No. 5262.....\$15.50

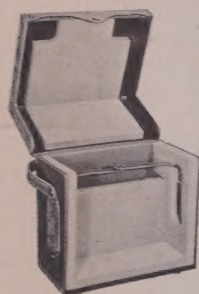


Vacuum Formed
Carrying Case
Cat. No. 2929.....\$11.00

	Cat. No.	Price
150 Amp-Clamp Carrying Case.....	0548	\$ 8.00
160 Leather Carrying Case.....	2225	11.00
160 Vacuum Formed Carrying Case.....	2929	11.00
208, 209—Leather.....	0578	11.00
255 Utility Vinyl.....	0549	20.00
0549 Snap-on High Voltage Probe Case.....	0574	6.00
250, 260, 261, 270—Leather.....	1818	13.50
250, 260, 261, 270, 303—Ever-Redy Leather.....	0805	15.50
Combination 260 and Adapter, Leather Carrying Case.....	1871	17.50
262, 263, 267, 268, 269, 388-3L, 389-3L Ever-Redy Vinyl.....	5262	15.50
312, 313, 314 Vinyl.....	0577	17.00
385-3L—Ever-Redy Leather.....	8073	12.00
391, 392—Leatherette-Covered.....	3413	12.00
355—Ever-Redy Leather.....	6355	5.00
All Microtesters—Ever-Redy Leather.....	4299	11.00
All Microtesters—Leatherette-Covered.....	3011	9.00
Roll Top Safety Case. For 260-2, 9, 10, 880's.....	6192	12.00
Roll Top Safety Case. For 260-6, 270-4.....	0248	13.00
Roll Top Safety Case. For 260-3, -4, -5, -5P, 261, 270.....	0249	13.00
Roll Top Safety Case. For 303.....	6379	13.00
460 Vinyl Case.....	1614	19.50

SPONGE LINED CASES

	Cat. No.	Price
312, 313, 314 Vinyl Case.....	1565	\$17.00
262, 263, 269 Vinyl Case.....	1613	14.00



Sponge Lined
Carrying Case
Cat. No. 1565.....\$17.00
Cat. No. 1613.....\$14.00



NEW
Rugged black Vinyl
Case for Simpson 460
Cat. No. 1614.....\$19.50



UTILITY CASE FOR 250, 255, 260, 261 AND 270

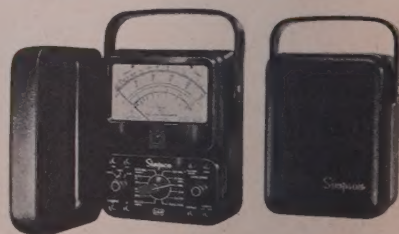
Ever-Redy Carrying case (Cat. No. 0549) has extra space for accessories and/or tools. Probe case (No. 0574) can be snapped on to this case to accommodate any of the high voltage probes.



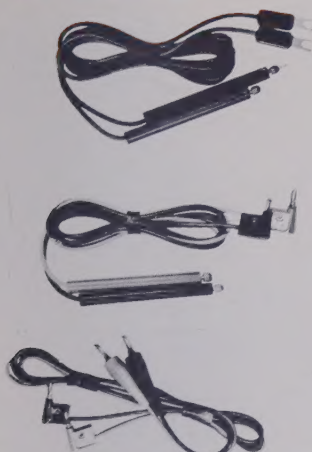
NEW PROTECTIVE COVER FOR SIMPSON 260® FAMILY OF VOMS

Made of tough, durable, vacuum formed thermoplastic. Fits over the face of your Simpson VOM snugly, firmly—with an easy snap. Protects the face of your VOM from scratches, nicks, cracks. Prevents dust and dirt accumulation and stops accidental damage to switch knobs and buttons . . . helps to maintain the high built-in accuracy of your Simpson VOM.

Catalog Number: 02163, black color, snap-fit cover for all 260 and 270 Series VOMs only \$1.50 each.



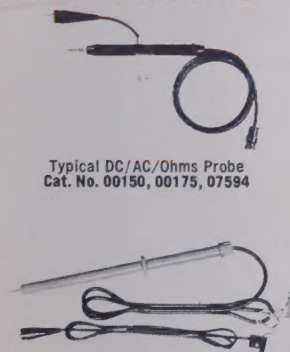
TEST LEADS



For Testers	Cat. No.	Price
160 Probe tip leads	02055	\$3.50
160 Alligator clip leads	01927	3.00
202; 208; 209 Alligator clip leads	07500	3.25
202; 208; 209 Probe tip leads	07538	3.75
202; 208; 209 Combination probe tip leads with removable clips	00115	3.75
230; 240 Alligator clip leads	08375	3.25
230; 240 Probe tip leads	08381	3.75
250; 255 Alligator clip leads	07500	3.25
250; 255 Probe tip leads	07538	3.75
250; 255; 260; 270 Combination probe tip leads removable clips	00115	3.75
256; 257 Combination probe tip leads with removable clips	07541	4.00
260 (series 1, 2 only) Alligator clip leads	08375	3.25
260 (series 1, 2 only) Probe tip leads	08381	3.75
260 (series 3, 4, 5, 6 only); 261, 262 (series 3 only) Alligator clip leads ..	07500	3.25
260 (series 3, 4, 5, 6 only); 261, 262 (series 3 only) Probe tip leads	07538	3.75
260 (series 3, 4, 5, 6 only); 261, 262 (series 3 only) Combination probe tip leads with removable clips	00115	3.75
260-5, 260-5RT, 260-5M, 260-5MRT, 260-5P, and 260-5PRT all use 260 series 5 leads listed above.		
262 (series 1, 2 only) Combination probe tip leads with removable clips	08463	3.75

For Testers	Cat. No.	Price
263; 267; 268; 269 (series 2, 3 only) Alligator clip leads	07500	\$3.25
263; 267; 268; 269 (series 2, 3 only) Probe tip leads	07538	3.75
263; 267; 268; 269 (series 2, 3 only) Combination probe tip leads with removable clips	00115	3.75
269 (series 1 only) Combination probe tip leads with removable clips	08463	3.75
270 Alligator clip leads	07500	3.25
270 Probe tip leads	07538	3.75
270 Combination probe tip leads with removable clips	00115	3.75
303 (series 1 only) Ground lead	00069	2.75
303 (series 2 only); 311 Ground lead..	00733	2.75
355 Probe tip leads	08600	3.50
362; 371, 373; 374; 375; 376; 377; 378 Alligator clip leads	08376	3.25
362; 371; 373; 374; 375; 376; 377; 378 Probe tip leads	08379	3.75
383A Test lead assembly ..	07509	3.75
387 Alligator clip leads	08376	3.25
387 Probe tip leads	08379	3.75
390 Test cord assembly	08418	8.00
466 Input cable	00100	4.50
650 Test lead	07545	2.25
651 Ground lead	00733	2.75
715 Input cable	00100	4.50

HIGH VOLTAGE AND RF PROBES



Typical DC/AC/Ohms Probe
Cat. No. 00150, 00175, 07594

Typical High Voltage Probe
Cat. No. 0507, 0508, 0509, 0510, 0511

For	Voltage/Type	Cat. No.	Price
260 Series 2	25,000v	00007	\$17.00
250, 255, 260 Series 3, 4			
4M, 5, 5M, 5P	10,000v DC	00507	17.00
261	25,000v DC	00508	17.00
267	30,000v DC	00509	17.00
270	10,000v AC	00161	17.00
260 Series 6	5,000v DC	00506	4.50
260 Series 6	5,000v AC	00505	4.50
262 Series 1	16,000v DC	00172	17.00
	30,000v DC	00180	17.00
262 Series 2	16,000v DC	00172	17.00
	30,000v DC	00180	17.00
262 Series 3	16,000v DC	00146	17.00
	30,000v DC	00145	17.00
263	30KV @ 10KΩ/V 15KV @ 20KΩ/V	DC 00158	17.00
269 Series 1	16,000v DC	00173	17.00
	30,000v DC	00181	17.00
269 Series 2, 3	16,000v DC	00119	17.00
	30,000v DC	00157	17.00

For	Voltage/Type	Cat. No.	Price
303 Series 1	DC Probe	00067	\$5.50
	AC Probe	00068	5.50
	High Frequency (RF) ..	00073	11.75
	30,000v DC	00074	17.00
303 Series 2	DC/AC/Ohms Probe ...	00150	11.75
	High Frequency (RF) ..	00073	11.75
	30,000v DC	00186	17.00
311 Series 1	DC/AC/Ohms Probe ...	07594	12.00
	High Frequency (RF) ..	00731	17.00
	30,000v DC	00732	17.00
311 Series 2	DC/AC/Ohms Probe ...	07594	12.00
	High Frequency (RF) ..	00174	16.00
	30,000v DC	00732	17.00
311 Series 3	DC/AC/Ohms Probe ...	00175	12.50
	High Frequency (RF) ..	00176	16.00
	30,000v DC	00178	17.00
312	DC/AC/Ohms Probe ...	00150	11.75
	High Frequency (RF) ..	00152	11.75
	30,000v DC	00155	17.00
313	DC/AC/Ohms Probe ...	00189	12.25
	High Frequency (RF) ..	00191	11.75
	30,000K DC	00192	19.00
314	High Frequency (RF) ...	00193	11.75
	DC/AC/Ohms Probe, (X1, X10)	00194	28.50
460	High Voltage, 30,000K DC	00159	17.00

TEMPERATURE TESTER LEADS AND PROBES



No. 0190

No. 0789

Models 385-3L, 389-3L, 260 — Adapter 652

	Cat. No.	Price
Free Air Temperature Probe	0789	\$13.00
15 ft. Thermistor lead	0010	10.00
30 ft. Thermistor lead	0216	11.00
50 ft. Thermistor lead	0415	12.00
100 ft. Thermistor lead	0416	15.00
150 ft. Thermistor lead	0417	19.00
Surface temperature probe	0790	10.00

Models 388, 388-3L, 255

	Cat. No.	Price
388, -3L, Rugged Service Lead (8 ft.) ..	0496	\$10.00
388, -3L General purpose thermocouple	0190	9.00
388, -3L Surface temperature thermocouple (1000° F. Max.)	0187	12.00
255 only, Thermocouple lead (5 ft.)	0163	6.00

OSCILLOSCOPE PROBE KIT



For use with Model 458 Oscilloscope. Includes *low capacity probe, voltage doubler, detector, 100:1 voltage divider and dual direct — resistive. (Isolation.)

Complete with 4 poles, plastic roll, and operator's manual. Cat. No. 0739

	Cat. No.	Price
Voltage Doubler	0740	\$18.00
Low Capacitance	0741	18.00
100:1 Voltage Divider	0742	19.00
Direct-Resistive Dual Purpose	0743	15.00

METER SAFE/GUARD



Same protection as built-in new 260-5. Installs in minutes. Complete instructions for 260 series — 1, 2, 3, 4. Cat. No. 12621. Complete only \$1.95 ea.

ACCESSORY SHUNTS



Used with models 256 and 257 for DC current measurements up to 100 amps full scale. Convenient plug-in design.

Range (F.S.)	Cat. No.	Price
25 DC Amperes	06527	\$15.00
50 DC Amperes	06528	15.00
100 DC Amperes	06531	15.00



1025560



NEW Simpson® 260 SERIES 6 VOM

Features new external access battery compartment, new 0-1 DC volt and new 0-500 volt AC and DC ranges plus all the advantages that make the Simpson 260® the world's most popular VOM.

SEE PAGE 24

NEW Simpson® 460 DIGITAL VOM

Combines analog and digital readout. Measures 26 most used AC/DC voltages, currents and resistance ranges. Many more features.

SEE PAGE 26



SIMPSON ELECTRIC COMPANY

GENERAL OFFICES AND EXPORT:

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IN CANADA: Bach-Simpson, Ltd., London, Ontario

IN INDIA: Ruttonsha-Simpson Private, Ltd., International House, Bombay-Agra Road, Vikhroli, Bombay



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